

United States  
Circuit Court of Appeals  
For the Ninth Circuit.

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Transcript of Record.  
(IN TWO VOLUMES.)

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PACIFIC POWER COMPANY, a Corporation,  
Plaintiff in Error,  
vs.  
P. R. SHEAFF,  
Defendant in Error.

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VOLUME II.  
(Pages 305 to 607, Inclusive.)

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Upon Writ of Error to the United States District  
Court of the District of Nevada.

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(Testimony of J. G. Scrugham.)

Cross-examination by Mr. CANNON.

When I say that the different burns spoken of may have been received by the plaintiff in the act of falling, or while falling, that is a mere conjecture on my part. I had in mind that if, for instance, the

104 plaintiff was in a position where he would receive a charge of electricity from this wire,

either by jumping or by actual contact, that in falling the arc might be placed upon different parts of his body, such as would be presented in the proper relation while he was in the process of falling. The arc may be formed by actual contact and a

drawing away again. In an ordinary automobile engine we have what is known as a "jump spark." In the spark plug, the two ends come close together, say a thirty-second of an inch apart, and the spark

105 which explodes the charge of gasoline jumps across that space. There is another character

of spark used in gasoline engines called the "make and break spark." That spark is formed by the two metals being together in the first place; then the current is turned on, and then one part of the metal draws away from the other, and in the drawing away process the spark is formed. [253] The same

way as when disconnecting these wires and raising the switch, as the switch was just opening and drawing away, there would be a spark there.

105 There would be an arc if sufficient current is behind it to keep it working, that is why we see in opening ordinary electric light switches, that little flash as the metals are parting company, and

(Testimony of J. G. Scrugham.)

also see it as they are coming together sometimes. Applying that principle to the case in hand, and assuming that a person came in contact with the point of the wire or pipe in question, and then either fell away or drew away, that arc would be formed on the same principle as the make and break spark. After the voltage reaches a certain amount, a distance of a fraction of an inch makes very little difference. In either case there would be the arc, fire and burning resulting. That might have the effect of leaving its mark on the wire in either instance. In the case of either the jump or actual contact and drawing away that arc would present practically the same appearance in either instance. The clothing of a person under those circumstances coming either within the jumping zone or the actual contact would probably cause a spreading of the arc, particularly if he had very moist clothing, either perspiration or otherwise; or if he had large metallic buckles on his back in suspenders, and that spreading would be practically the same, whether it was a contact case or a jump case. If a person, for instance, came into actual contact with that wire at a point in his back to the right of the spinal column and under the right shoulder blade, practically at that point, and there received his first burn; and in dropping were to fall somewhat in the manner you are indicating, so that the wire would run up along the back, and to the shoulder, it might produce the effect that was described by me by counsel in his question, as



(Testimony of J. G. Scrugham.)

to the several different [254] electrical burns. In that process, providing that the arc continued, or that different arcs formed at different points, while the point was traveling along that portion of the person's body. If the voltage between the line and the ground was thirty-two or thirty-three thousand volts, no lightning discharge, or no abnormal lightning conditions being present, there would be a normal condition. The distance that I have mentioned of the jump of about one and three-quarters inches

has been worked out experimentally, and those  
109 experiments were supposed to be conducted along scientific lines. I had occasion on an electrocution case some years ago to build an apparatus largely for the purpose of determining these points, and my results agreed with the scientific conclusions on the subject very closely. The results given in the handbooks are based on needle points. This result I have given you now is the result based both on the result given in the handbook and my own experiments. The point I am making, it may be between needle points, and between blunt points, simply the distance; but in order to get it ex-  
110 actly, to get a standard, you must have a standard point, otherwise there would be a slight variation. A standard point in the case mentioned would be a needle point. Those tests are made under conditions that represent the best possible conductors to get the longest jump. This figure that I have given is the outside limit. It may vary the sixteenth of an inch, or even an eighth of an inch

(Testimony of J. G. Scrugham.)

from that. The human body with respect to high voltage is a good conductor because the high voltage has to go somewhere. The skin you might say offers a comparatively high resistance; the salt water  
111 in the blood offers a very low resistance; the nervous system—the nerves, offer a very low resistance; if it once gets under the skin, gets to the internal portions of the body, and the nervous [255] system and the blood system, there is a comparatively low resistance. A low voltage will not break down this cutaneous tissue, and consequently it has comparatively a high resistance; a high voltage will break it down, and once broken down, the resistance is comparatively low. An insulator is good  
112 as long as it is not broken down. You cannot state anything positive about it, because it depends on the condition of the man's skin at the time; if he is wet with perspiration, it is a pretty fair conductor—if he is soaking wet; if he is very dry, why, of course, it is a much poorer conductor. We have experimented with it, having a man's hand in salt water—a good conductor. With a point on the one side, and a rounded surface, or a circular surface, like some parts of the human body, on the other, the tendency would be to require a smaller distance for the jump. Some part of the human body would  
113 have to come within an inch and three-quarters of that wire before the person would be hurt, under normal conditions on that line. The jumping distance increases very rapidly with the vol-

(Testimony of J. G. Scrugham.)

tage; by that I mean if you double the voltage after thirty-thousand you would get much more than twice the jumping distance. If a person were standing on dry ground that would tend to decrease the amount of current which would pass. In lightning-arresters there is supposed to be resistance in the grounding process. A lightning-arrester performed  
114 two offices, one to carry off the surplus that was not intended to be carried on the line, and the other is to keep on the line what was actually intended to be there. Assuming that the distance between the horns of this lightning-arrester was four inches and a quarter, if a body were within exactly four inches and a quarter from the live wire, and there should be an overcharge for any reason upon the wire, it would probably, almost undoubtedly, choose the regular route. If the human [256]  
body were four and a half inches from any part  
115 of this live wire, the jump would be across instead of into the human body, so under those conditions some portion of the human body would have to be within less than four and a half inches from the live wire, before it would receive any charge, under the conditions that have been described to me, even if there were an overload on the wire. Any part of his body, or whatever he may have had in his hands, or a ring upon his finger, or anything of that kind, would have to get within that  
116 gap zone there before he would receive a charge, even under abnormal conditions, other than a direct stroke of lightning which might take



(Testimony of J. G. Scrugham.)

*take* both paths. In case of a stroke of lightning that would practically have to occur right at the point. If such a stroke of lightning occurred to do as much damage as that a quarter of a mile away, it would probably break the insulators, and go to the ground by means of *of* the poles and smash the poles. The lightning expected to be controlled by this lightning-arrester is more or less static. It is not a  
117 lightning bolt, it is the lightning with which the air is charged by reason of an electrical storm, or something of that kind. These abnormal conditions I speak of would have to be such as to increase the voltage to such an extent as to cause the arc to jump across this four and a quarter inch space before it would be relieved, and then when it would jump, an arc would be formed there. Assuming a sufficiently heavy load to form an arc, that arc,  
118 if it were permitted to remain there, would be fed and supported by the current on the line, and that would carry the current which was being generated in that power plant, into the ground, and cause all sorts of conditions in the power plant and on the line. In order to avoid any such contingency as that, and to protect and conserve the power on the line for the purposes for which it is intended, a certain amount of resistance is arranged for in the path of [257] this surplus current to the earth. By resistance is meant some sort of obstruction to the lighting itself, and holding it back,

(Testimony of J. G. Scrugham.)

to limit the flow of dynamic current, or line  
119 current to the ground. The limitation of that  
flow, that partial resistance, has a tendency  
itself to assist in the breaking of this arc, and to re-  
turn things to their normal condition. In this pic-  
ture, which has been shown me here, there is provided  
a tank of some kind where the surplus charge comes  
down into a tank of water, and from that tank, the  
current is carried into the ground; the water in that  
case supplies the resistance and helps to break the  
arc. Now, in the assumed case here, where condi-  
tions are a little more rough, and where ex-  
120 pedients have to be used sometimes, the carry-  
ing of that wire to the water in a well or in a  
shaft, might have an influence along the same line  
to a very limited extent. The arc would have an-  
other reason for breaking under a construction of  
this kind. Assuming that an arc formed between the  
two closest points, it would gradually become elon-  
gated and attenuated, and would finally, in the pro-  
cess of rising due to the heated air, come to a point  
where it would break. It was just as you  
121 illustrated to Mr. Campbell this morning, you  
stretch a rubber band out beyond its capacity,  
it would break, and when that arc would break, the  
normal condition would be restored and the power  
would flow along the line for use. Some modification  
of that horn gap type of arrester has been in use for  
some years; most of these in the west, on the Pacific  
Coast work on practically the same principle. They  
use this method of extinguishing the arc. Some-

(Testimony of J. G. Scrugham.)

times there are different gaps, and sometimes there is a succession of gaps, and the lightning-arresters differ in those details, but the same general principles, as to the jump and resistance, are carried in practically all of these forms. I have been familiar with the horn gap type of [258] lightning-arrester for several years past.

Mr. CANNON.—Q. Invented by a German named Oelschlager? A. Yes.

Q. This is the fact concerning it, isn't it? It has been used little in this country until lately, when it has been installed on a few of the high voltage lines on the Pacific Coast, and the results are so far highly commendable; would that be about right?

A. Approximately for the time that was written; that was written about 1906, or 1907, or 1908. (Referring to Foster's Electrical Engineer's Pocketbook.)

Q. This was revised and published in 1913.

A. Well, the same thing I think appears in the 1904 and 1905 edition.

WITNESS.—(Continuing.) On this particular picture that was shown me, the high tension wire was not necessarily brought down, it may be brought up, and there is nothing directly in this particular picture as to whether it was built high above the ground, or close to the ground.

124 A. In scale and relative proportion; by scaling, that is, so many inches to the foot, I am judging by the diagonal brace, the customary location of the diagonal brace.



(Testimony of J. G. Scrugham.)

Q. This would indicate, would it not, with this word "Ground," that the ground would be immediately below the tank?

A. No, sir; by "ground" there is meant a ground wire.

Q. And that ground wire could either stop there, or continue on down as far as the pole went, whether it was a hundred feet or twenty feet? A. Yes, sir.

Q. And the pole is not shown on this, except  
125 a very small portion? A. No, sir.

Q. Now, you spoke of the reason for carrying that at [259] a height of ten feet, so that the element of safety came in? A. Yes, sir.

Q. A man's safety—safety to the public, I suppose? A. No, sir.

Q. Safety to anybody— A. Working around it.

Q. Safety to anybody. Now, then, the safety of the public, of course, would come in as an element?

A. Yes, sir.

Q. Then a fence would help some?

A. Yes, sir; the higher and more substantial the fence, the better it would be.

125 Q. A fence ten feet high, of course, that would be a better protection than a low fence?

A. To the public.

Q. To the public—I am considering now to the public. The more substantial the fence the better, so far as the public is concerned? A. Yes, sir.

Q. And danger signs also constitute some protection? A. Yes.

Q. Not only so far as the public is concerned, but

(Testimony of J. G. Scrugham.)

to people working about the apparatus; that is correct, isn't it?      A. Yes, sir.

WITNESS.—(Continuing.) With people having to work around these things, they have some times to climb poles. Assuming that a lightning-  
126 arrester of this kind were put on a ten-foot pole, and that a person had to do some work in connection with the wires, or the insulators, he would have really a more insecure position in working upon it than if he were standing upon the ground and working on it. In other words, if you have a dangerous thing to work with, and you are standing on the ground working about it, you are in a more secure position than if you have to stand upon the  
127 pole that is quite a number [260] of feet in the air, and hold yourself by straps around your legs. So far as the public is concerned, a fence is a good thing. So far as the public is concerned, a danger sign is a good thing. So far as an employee is concerned, a danger sign is a good thing, and so far as an employee is concerned, a safe place to stand while you are working is a good thing. These currents that are carried on high tension wires are all alternating currents, with one exception, there is a line in France, a direct current line, that runs  
128 ninety thousand volts. I spoke of another manner of wrecking a wire by a sudden stoppage in the use of the current at some point; that is provided against by gradually reducing the load. If a current is being used in a mill, and they want to shut down the mill, they have a switch which is so

(Testimony of J. G. Scrugham.)

arranged as to reduce the load somewhat gradually; they use an oil switch. If the load is shut off suddenly, the effect would be to sort of instantaneously dam up the current on the wire for a time. I can give you a hydraulic analogy that will make that clear. We have a good-sized pipe with a considerable head of water flowing in it; the water has a certain momentum; if we suddenly shut off that water, there will be a very abnormal surge, you might call it, corresponding to it—bursting pressure, which may burst the pipe. We have a somewhat similar condition in electricity; it may burst the insulator, unless there is something on the wire to relieve it. The analogy between voltage, on the one hand, as compared with the pressure of water and amperage on the other hand, is the following; a pipe line leading from a high tank, the pipe line being at the bottom of the tank; if the tank is a hundred feet high, we say we have a hundred-foot pressure or head on that water. Now, the electric line, the difference between two wires, can be likened to the difference between the top and bottom of the tank; there is a [261] pressure of one hundred and ten volts, or twenty thousand or fifty thousand, between the two wires, corresponding to the difference in elevation, we will say of two or three hundred feet on the tank; in other words, the voltage pressure, voltage electrical pressure, corresponds to the head in feet pressure on a water line. Now, the term “amperes” implies a certain quantity of water per second, or, the analogy,



(Testimony of J. G. Scrugham.)

so many second feet, or so many miner's inches, or so many gallons per second, or per minute; that is the analogy for the amperes. If the high tension wires are carrying a high voltage current into the transformers, when that current passes through the transformers, the voltage is usually reduced at  
132 the receiving or consuming end, for the purpose of working. It may be reduced from fifty-five thousand to sixty-six hundred, and then again, it may be transformed again down to one hundred or something of that kind.

Redirect Examination by Mr. CURLER.

The liability to be electrocuted is reduced as the voltage is reduced through the transformers, approximately, at least. If a man gets two thousand volts, it is just as bad for him, really, as if he got sixty thousand, one would kill just as dead as the other. When through the transformer the voltage is reduced to one hundred and ten volts, it is  
133 not commonly considered dangerous, although there are well authenticated cases where men have died from the effects of a one hundred and ten volt shock, possibly due to heart failure. I have seen twenty-three thousand volts draw an arc about seven feet. It depends on conditions at the time. Thirty-three thousand volts could be drawn even longer. The arc is caused by the current heating the air or vapor to incandescence. A perfectly dry pole would be an insulator up to a certain voltage applied to it, and depending on the length

(Testimony of J. G. Scrugham.)

134 [262] of the pole. To explain,—a man  
working on a pole, two thousand volts, the pole  
perfectly dry, the pole is a good insulator; if he is  
working on a pole say of a hundred and fifty thou-  
sand volts, or possibly higher, he should not rely on  
the pole as an insulator; the pressure is possibly  
sufficiently high to break down the insulation on the  
pole. It would be safer from electrical shock to work  
on a lightning-arrester say, twelve or fourteen feet  
from the ground, having no other insulation  
135 than the pole, than it would be on a lightning-  
arrester with no insulation between you and  
the ground. The wire would not be grounded if it  
were cut off square in the air as that picture appears  
(the witness refers to a book handed him by counsel).  
Supposing this lightning-arrester were constructed,  
and there was no connection made between the dead  
ends of the lightning-arrester and the ground, there  
would probably not be an arc formed between the two  
horns of the lightning-arrester, unless that happened  
to be the weakest point in the line. If a surge oc-  
curred upon the line, but not of sufficient force  
136 to form an arc between the live and dead ends  
of the lightning-arrester, just insufficient to  
not form the arc, and a person came close to the live  
end of that arrester, the electricity would jump a  
space to him, just slightly less than the space between  
the arms. I think a voltage of from fifty-five thou-  
sand to sixty-five thousand volts, probably approxi-  
mately fifty-six thousand volts, is necessary to form  
an arc over a space of four and a quarter inches. A

(Testimony of J. G. Scrugham.)

perfect ground is a ground of infinitely low re-  
137 sistence. The ground that has been described  
in this case would not be a perfect ground. It  
was probably the best they could do under the cir-  
cumstances. The length of the ground wire to the  
shaft would make a difference. The discharge from  
lightning is highly oscillatory, vibrates many thou-  
sand times per second; it will take a short [263]  
path and high resistance, in preference to a long  
path, a very long path, of low resistance. The skin  
does not offer any considerable resistance to high  
voltage. Clothing under certain conditions might  
spread the burning. The clothing would be  
138 ignited at the point where the arc struck; it  
would heat the air around it, making the air a  
fairly good conductor—cause the arc to spread.

Recross-examination by Mr. CANNON.

There might be electrocution with considerably less  
than two thousand volts. There have been well au-  
thenticated instances of men dying after a one hun-  
dred and ten volt shock. It is considered anything  
over one-tenth of an ampere of current is likely to  
prove fatal. In the electrocution of criminals, a  
voltage of about seventeen or eighteen hundred is  
used, but a comparatively high amperage. For in-  
stance, with a very quick connection being  
139 made, with a low voltage, disconnected im-  
mediately, there is not near as much likelihood  
of damage, as if the connection is made and retained,  
allowing the current to pass through. On an  
ordinary automobile, with the ordinary magneto, a



(Testimony of J. G. Scrugham.)

very high voltage can be generated. I do not think you can generate over ten thousand volts on an automobile magneto. The chances are it would be much lower. In that case there is no amperage, no quantity behind it to support it. If the object which comes into contact, or near the wire when the arc is formed,

140 ; moves away, there is a possibility of the arc being stretched out until it becomes so attenuated that it breaks. I didn't mean to be understood as saying that there was any possibility of an arc being formed at a distance of four or five feet under the conditions mentioned. On these high tension wires there is a possibility sometimes arising to a great danger of an insulator being broken by the power of the voltage. If [264] that insulator breaks, then the tremendous voltage finds its way down the pole, usually to the ground and it sometimes forms a charred track, which forms a fairly good conductor.

141 Mr. CANNON.—Q. So that if this contrivance were raised, so that a person would have to climb it to repair it, or to do anything with it, he would be under that danger, and all of the dangers that go with handling high tension wires, wouldn't he?

A. With the insulating platform which is frequently placed there, he would not be under any danger, because he would stand on the insulating platform; but if such an insulating platform were not provided, the answer would be yes.

(Testimony of J. G. Scrugham.)

Redirect Examination by Mr. CURLER.

WITNESS.—(Continuing.) The resist-  
142      ance of the skin is reduced by perspiration,  
            and allows an easier path for the current to go  
            through; more current can go through for the same  
            voltage, than if the skin were dry; he will receive a  
            more severe shock on, say one hundred and ten or two  
            hundred and twenty volt line, if his hands are moist  
            or wet, and particularly if it is salt water, he will feel  
            more of a shock, because more current would pass.  
            In perspiration there is salt water, and salt is  
            a good conductor. Absolutely pure water is not a  
            conductor, but water that is absolutely pure is  
143      almost impossible to find outside of a chem-  
            ical laboratory. A very slight impurity will  
            make the water a conductor.

**[Testimony of Clifton Herring, for Plaintiff.]**

Mr. CLIFTON HERRING, a witness produced  
on behalf of plaintiff, being first duly sworn, testified  
as follows:

Direct Examination by Mr. GEDNEY.

I am an electrical worker, residing at Rawhide at  
present. I know Mr. Sheaff. I met him in January,  
1911. I worked in practically the same gang with  
him. That was the time I was [265] working for  
the contractor, Mr. Hess. I was putting insulators  
            on poles, a transmission line from Lucky Boy  
144      to Wonder. He was working on the line gang  
            part of the time, bucking telephone wires. He  
            was working about three weeks at that. We worked



(Testimony of Clifton Herring.)

into Wonder together at that time. The gang was discharged there, and he left for Fallon. I next saw him in Wonder. He was helping with the substation installation, I think, for the Pacific Power Company. He was helping Mr. Halpenny. Mr. Halpenny was installing the substation at Wonder, and he came over there to assist. From that time on, up to the 18th of July, I was around where Mr. Sheaff was working, for a period of about two days.

145, Mr. CURLER.—Q. Does or does not a line-man furnish his own equipment or tools?

Mr. CANNON.—Objected to on the ground it is incompetent, irrelevant and immaterial; it does not involve any question of custom with this defendant; or as to whether it is an invariable matter, or whether a person can be a lineman without these or not.

The COURT.—I will allow the question. It don't seem to me it is very material.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

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A. Usually he does.

WITNESS.—(Continuing.) Those consist of climbers, belt, tool-belt and safety, and usually pliers and connectors.

Mr. CURLER.—Q. Did Mr. Sheaff at any of the time that you knew him working for the Pacific Power Company, or any other company, have any of those tools? A. I don't know of such. [266]

(Testimony of Clifton Herring.)

WITNESS.—(Continuing.) I saw the lightning-arrester built. Mr. Halpenny, Mr. Campbell, Mr. Granquist, Mr. Sheaff, Mr. Cook, Mr. Greenleaf and myself worked on that lightning-arrester in building

it. I think it took about four or five hours to  
147 build it. It was constructed about June. We

began after dinner, I think, about two o'clock, and it was about six, I guess, or a little after, when we finished. Mr. Sheaff, in the construction of the lightning-arrester, helped in bringing some of the material from one part of the grounds to another, where it was to be used. I think Mr. Halpenny bent the pipes for the lightning-arrester. I don't think Mr. Sheaff helped Mr. Halpenny bend those pipes.

I helped him on some of them. I am not sure  
148 that I helped him on all of them. During the time we were building that lightning-arrester there was conversation between Mr. Halpenny, Mr. Greenleaf, Mr. Campbell and myself in regard to its construction, and more particularly in regard to the height. At that time we were tying on the horns.

Mr. CURLER.—Q. State that conversation, as near as you can remember it.

Mr. CANNON.—Objected to on the ground it is incompetent, irrelevant, immaterial and hearsay.

The COURT.—The objection will be overruled.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said  
149 question to be asked and answered is here assigned as

(Testimony of Clifton Herring.)

A. Mr. Campbell remarked that it was criminal carelessness to build an arrester with the horns so close to the ground, that the average man could easily come in contact with them; and Mr. Halpenny remarked that he felt it was not safe, but Mr. Poole had instructed him to go ahead and build an arrester  
150 with what material he had, and he had to protect the lines [267] from lightning, and as soon as he could get the other arrester there, it would be installed in its place.

WITNES.—(Continuing.) I remarked that it didn't look good to me, and Mr. Greenleaf remarked that it was a "cheap damn outfit," or "cheap damn outlay," and that some one would likely get hurt there. During that conversation, I think Mr. Sheaff and Mr. Cook were gathering up wire and other material not being used, and piling them along the side of the  
151 transformer house. Mr. Sheaff was around at the side or the front of the transformer house. and the conversation took place right at the lightning-arrester. Mr. Sheaff was working twenty or thirty feet from where I was at the time of this conversation. At the time of that conversation there was a telephone put into that transformer house. It was installed at the time, whether it had been put in that day or a day or two before, I don't remember. If you were in the house, you could not hear the buzzing or purring of the transformers in the station-  
152 house that day. If the power was turned on, usually there is a slight buzzing, purring noise. I don't remember hearing any buzzing of the tele-



(Testimony of Clifton Herring.)

phone. The telephone was attached to the framework of the building. It was an iron-covered building. On the 18th day of July, 1911, the day the injury occurred to Mr. Sheaff, I was at Fairview. I first saw him at that time about nine-thirty, and I afterwards saw him at the transformer station. I was talking with him about nine-thirty, or perhaps

a little later, the last time, and he left me to go  
153 to the transformer station. It was perhaps an hour before I saw him again. He was sitting

on a transformer oil drum, in front of the transformer station. I would judge those drums were about forty-two inches long,—it was setting on end.

A few minutes before I heard some one holler, but didn't recognize it until afterwards as being Mr. Sheaff. At the time [268] I heard that person holler, I didn't know where he was hollering from; I thought he was just over the Nevada Hills Mine dump. He was hollering "hey, there, hey,

154 there, send somebody down here, will you?"

He was just simply sitting there on the oil tank.

I came around the edge of the dump and saw him sitting on this drum, just this way (illustrating), with his head drawn over, looking back toward the dump, and I throwed up my hand as I passed along at him, like that (showing). He didn't answer me at all. When I saw him sitting on that oil tank, I think it was about ten or fifteen minutes past eleven.

After that time, I saw him at the window of the transformer house. He hollered again from

155 there. He hollered "hey." When I answered, he said, "Come over a minute, will

(Testimony of Clifton Herring.)

you? I have hurt my foot." I was eating my lunch—I dropped my bucket and ran over to him. When I got there, he was inside and crouched down with both feet in from of him on some burlap and tools and rubbish and stuff, under the window. As I got inside the door, I saw one shoe off, and the foot  
burned. It was the right foot. It was just a  
156 crisp blister, practically, from the bottom of  
the foot to the ankle. I didn't then examine  
him to see whether there were any further burns. When I saw the burn, I ran up on the hill and got assistance. When I came back there was quite a crowd came back and together we dressed the wounds, both feet and shoulders. After fixing that one foot up, we examined the other foot. It was burned too, and we dressed that. Both shoulders were burned,—the left shoulder, his shirt was burned out, a place perhaps as large as a saucer. I didn't notice  
157 any other burns. We put him on a cot and  
took him up the hill and started him for Fallon. At the time I went in to the substation house he seemed to be conscious, but dazed, and from that time on, and until I saw the last of him, he was not at any time fully conscious. I [269] went around to where the lightning-arrester was that day, after I knew that he was hurt; after getting assistance for him; after bandaging up the wounds, he said he had lost his watch up there, and I went up to look for it. I did not find it. I came out on the north side  
the door would then be opposite me. I went  
157 within that enclosure, climbed through a wire fence. I saw where he had been digging—

(Testimony of Clifton Herring.)

saw his tools there. I looked for the watch. At that time the fence was connected with the substation. I went back and told him I could not find the watch. I went back again to look for it. When I went back the next time, the fence was up. I tore it down then with my pliers to get inside. I don't

know whether I pulled the staples or cut the  
158 wire. I think it was a barbed wire fence. It

was a wire fence—strand fence—three wires, I think. I think the two top wires on the south side had been dropped down,—laid down. I that day looked at all of the horns. There was a little blister—a tit—just at the side, or below the side of the north horn, on the live side, marked on this model, horn No. 1. If that pencil was the arrester, that tit would be about here. Assuming this pointer is the live arm of the lightning-arrester, I think that tit would be about there. It was more on the side,

I think, than on the bottom. After I first  
159 got to this transformer station, I noticed this, perhaps twenty minutes after first going to

Mr. Sheaff. Just before I noticed this, while in there at this time, I first noticed this tit. I don't think there was anyone inside this enclosure with me at this time. I saw a pick and shovel in there at that time. The shovel was lying right beside the hole. It evidently was the last hole he had worked at. It

was this hole here (indicating on model).  
160 The hole marked "D." The shovel was lying right alongside the hole, right alongside this way (showing on model). On the inside of the hole,



(Testimony of Clifton Herring.)

lying [270] north and south. The pick was lying right across this way. The pick and shovel were lying close together near the hole. The ground inside that enclosure there was not smooth any place. It was the loose rock that had been thrown out at the time from the excavation from the transformer house; it was comparatively level back to the outside of the lightning-arrester, and beyond that, at the edge of the dump, it fell off more abruptly.

161 Q. What was the condition from the transformer house to the posts of the lightning-arrester?

A. The condition of the ground between the lightning-arrester and the switch posts was rocky. It sloped off. It was a step slope, I would say.

Cross-examination by Mr. CANNON.

When I went in there the second time, no one accompanied me inside the enclosure; some came around to the fence.

Mr. CANNON.—Q. Will you come down to this model, and tell us as nearly as you can, the route that you took in looking for that watch the first time?

162 A. (Going to model.) I came down here and got through the fence about here, I guess, and just walked along here, and looked from this end, under through the arrester.

WITNESS.—(Continuing.) I walked back and forth in the space between the lightning-arrester and the north side, looking along here, and also back through here. I went around and looked at the

(Testimony of Clifton Herring.)

other end. I walked around the building I went out again through the fence, and went clear around the building, and then went on the other side. I got over the lower wire, the top wires were down.

163 I traveled around the same way on that side, looking under the lightning-arrester. I looked all around it and under it and didn't find the watch. In looking under it, I stooped down from the point that I was [271] walking around. In looking for it the first time, I walked to the sloping ground. This corner down here sloped. I walked over past this hole marked "D," and then when I went around on the other side, I just went along the end of the arrester about four or five feet from it. I was as close as four or five feet from it on the north

164 side, I guess. I didn't find the watch then and came back a few minutes later to make a more particular search. I tore the wires down on the north side, and just searched the same ground. I did not walk any differently then than I did before. I think I went over about the same ground. I think I went to the other side again. I walked around the transformer house and on that side around the end of the arrester. I told him first that I

165 could not find the watch and he seemed sure that he had lost the watch in there somewhere.

I made the examination of all of the points or all of the pipes of the lightning-arrester the second time in there. I simply looked at them. I just stood *stood* here and looked to see if I could see any mark or any indication of an arc, or anything of any contact. I



(Testimony of Clifton Herring.)

think I first examined this one (indicating on model) that would be the dead one on the north side. I

166 didn't go up close to it. I stood perhaps three or four feet away from it. I next looked on through the line at this, the best I could.

That was the only examination I made of those other dead ones, looking four feet away at the first dead one. The size of this mark that I saw on No. 1 was a little larger than a pinhead. I was about three feet away from it when I discovered that. I did not put my face down very much closer to it than that to examine it carefully. I examined the one in the cen-

ter the *say* way. I stood on the outside and  
167 looked at it. I was perhaps eight or nine feet away from that one when I was examining it.

[272] I did not make a very close examination of a mark the size of a pinhead at that distance. I did not examine it very closely. I took a sort of general survey of them, and I saw something. I did not go any closer than three feet to any of those live wires in the two entrances that I made to that enclosure. While

I was making this examination, I think the  
168 spectators remained on the outside of the fence. The only place I noticed that was burned away was where the shirt of the plaintiff was burned. On the day this lightning-arrester was built I was not watching Mr. Sheaff particularly. I was not keeping my eyes on him to see whether he was within earshot or not. I was not modulating my voice when this conversation was going on so that Mr. Sheaff would not hear. I was paying very little

(Testimony of Clifton Herring.)

attention to Mr. Sheaff,—no more than to anybody  
else. Mr. Sheaff was coming and going with  
169 material, and I was paying no attention to his  
coming or his going. When this conversation  
occurred among the four of us, I didn't pay any particular attention as to who was present, or who was absent, except at that time we had the horns formed up, and were tying them in, and Mr. Sheaff and Mr. Cook, Mr. Granquist's helper, had been sent around to gather up other loose material, and stack that up, to get ready for leaving the job; we were just finishing up the job. I did not make any memorandum of  
this conversation. I did not pay any particular  
170 lar attention as to whether Mr. Sheaff was  
there or not. Everything spoken about was  
spoken openly, and in such tone of voice as the occasion happened to require. I have the idea that Mr. Sheaff was not around. I did not look behind me to see if Mr. Sheaff was behind me anywhere. I don't know if Mr. Sheaff was behind the building. He might have been off down the hill, but he wasn't in sight. If he had been with the rest of us, I certainly  
would have seen him. That was in June, 1911,—  
about [273] two and a half years ago. I  
171 cannot remember who was present at every  
conversation that I have had in the last two  
years and a half. At the time this conversation was had, Mr. Sheaff had not had any accident—about a month before the accident to Mr. Sheaff. There was no reason why I should keep Mr. Sheaff in mind at all at that time. I have not refreshed my memory

(Testimony of Clifton Herring.)

from time to time as to this conversation particularly, except as I might, feeling about the arrester  
at the time, and the later incident impressed  
172 it on my mind. I didn't then think back and  
say, now Sheaff wasn't there, or Sheaff was  
there, or who was there. Nobody has been talking  
to me about that feature of this matter. We talked  
it over with the attorneys about who was present at  
that conversation, or whether Mr. Sheaff was out of  
earshot. The attorneys asked me who was present  
at the time. They asked me whether Mr. Sheaff was  
about, whether Mr. Sheaff could hear the conversation,  
as to the danger of the lightning-arrester.

They didn't tell me it was a very important  
173 thing in their case that Sheaff did not hear  
that conversation. They did not tell me that  
if Sheaff had heard the conversation that it would  
go very hard with him in this case. They said nothing  
of that kind. At this late day, two years and a  
half, I can recall the particular persons that were  
present while a particular thing was being said.  
When I found Mr. Sheaff in the substation he answered  
when I spoke to him. He wasn't unconscious,  
but he was in a dazed condition, it seemed.

He remained in the substation over half an  
174 hour—three-quarters of an hour, or an hour,  
before he was taken away. During all that  
time he remained in practically the same state. He  
didn't volunteer any remarks of his own. I am quite  
sure of that. Someone asked him how long since the  
accident had occurred—how long he had been laying



(Testimony of Clifton Herring.)

there and he said he thought about an hour and a half, [274] and he started to feel for his watch; he could not find it, and said he had lost it, and I

started to look for it to see if I could find  
175 it. When I returned with the information that I could not find it, he said it was there, he had lost it. I don't think he told me to go look for it again. In the first place he had asked me to look for it, and I went out and I looked for it and came back and told him that I could not find it, and he said he was sure he had lost it there; he was sure he had had it, and I did go back and look for it. I was working with the gang when

Mr. Sheaff came to the gang. That was along  
176 about the middle of January, 1911. I guess there were sixteen or twenty men in the gang.

It was the wire-stringing gang. The hole digging gang was ahead—was another gang. When I first met Mr. Sheaff he was with the hole-digging gang. At that time Mr. Sheaff was a man of rather commanding appearance, a big, stout, strapping, heavy fellow, and apparently in the full vigor of his manhood. I think there were no signs of ignorance or stupidity about him at that time. I think he appeared like a very bright, intelligent young

177 man. As far as I know, he was apparently a bright, keen-minded young man. I think he was about three weeks in that line-stringing gang. I was not with the gang all of the time. I was putting insulators on the poles. That would put me behind the pole-setting gang. The hole-digging

(Testimony of Clifton Herring.)

gang went ahead, the pole-placing gang came next, and the line-stringing gang came behind. All of the linemen in the party were called the line-stringing gang. Mr. Sheaff during those three weeks  
178 worked right with the other wiring men. He was among them, working with them. The wiring, stringing of the wires, and all of that, were apparently in his same neighborhood. A pair of pliers is one of the almost indispensable tools of the lineman. A pair of pliers is an implement that may be used in [275] twisting around wires, in breaking off wires, and in any of the multitudinous things that are necessary to be done in stringing wires, and attaching wires to insulators. The first time I saw Mr. Sheaff after the expiration of this employment was in Wonder. The plant was about a quarter of a mile from Wonder. I was at  
179 the Nevada Wonder mill. That was the mill that was being supplied with power from the Wonder substation, and I was working at the mill. While working at the mill, I was brought into connection with Mr. Sheaff and saw Mr. Sheaff working for the Pacific Power Company. I saw him a week or ten days working around the Wonder substation. I saw Mr. Sheaff principally in the evening at the time. Occasionally at the mill. On these occasions, I would see Mr. Sheaff and Mr. Halpenny quitting  
180 about the same time. They were working there together around the substation, and around the transformers. During that time the Nevada Wonder Mill was being wired. The

(Testimony of Clifton Herring.)

work being done there was the installation of the transformers, and Mr. Sheaff was assisting Mr. Halpenny in that work. I have had considerable experience in electrical matters, and wiring. There is considerable wiring in the installation of transformers. The switch-board work in installing the transformers is more intricate. The switch-board work is the work of bringing the wires into the switch-board, making all the connections, taking them up, wiring the instruments, measuring the instruments, and all that sort of thing.

181 Part of the work would be rather delicate.

So far as I am able to observe, Mr. Sheaff was working beside, or working in conjunction with Mr. Halpenny while all of that kind of work was being done. I was at Wonder when the power was turned in the mill. That would be in the month of June when they commenced to serve power to the Nevada Wonder. I first went over to Fairview about the eighth or ninth of [276] June, I think. I went to Fair-

view, over to the Nevada Hills Company. I  
182 think, on the twenty-eighth of June. Power was turned into the Nevada Hills substation just about the time they were working on the lightning-arrester, about the eighth or ninth of June. I think the transformers were all in. I don't think the Nevada Hills own substation was completed. I think the connections were made in the Pacific Power Company's substation. I don't know when the power was turned in to the Nevada Hills property. I went to work for the Pacific Power Company in



(Testimony of Clifton Herring.)

relation to the lightning-arrester on the eighth or  
ninth of June. I think it was earlier than the  
183 twelfth of June. In addition to installing the  
lightning-arrester, I patrolled the line from  
Fairview to Thorne to see that it was in good con-  
dition. That took me four days, I think. That was  
after I built the lightning-arrester. That was along  
about the fifteenth or sixteenth, seventeenth and  
eighteenth of June. I thought it was two or three  
days earlier than that. I went over more particu-  
larly to drive Mr. Greenleaf to Thorne on his way  
to Bodie. We both followed the line—inspected it.

Before patrolling that line I helped string the  
184 ground line from the Pacific Power Com-  
pany's substation to the mine shaft at Fair-  
view. That was the ground for the lightning-ar-  
rester. I may have installed, or helped install the  
telephone over there; I am not sure as to that. I  
worked on that substation a day and six hours. I  
dug holes for the poles for the ground wire; set poles  
for the ground wire, and struck the ground wire to  
the ground plate into the mine shaft. I was assisted  
in doing that by Mr. Campbell, Mr. Halpenny and  
Mr. Sheaff, I think. I believe Mr. Sheaff assisted in  
stringing the ground wire, and I think he as-  
185 sisted in stringing the ground wire clear down  
to the shaft where they made the ground. I  
don't know the particular things that Mr. Sheaff did  
to that lightning-arrester. [277] I saw him carrying  
materials back and forth. I don't remember seeing  
him assisting in bending the pipe that was to be put

(Testimony of Clifton Herring.)

up there—he may have. I think it was a quarter of an inch pipe. That required some strength to bend around in the direction that was desired. Mr.

186 Sheaff was one of the big strong men of the gang. I don't remember one way or the other about seeing Mr. Sheaff bending the pipe.

Mr. Granquist and Mr. Cook were working in the gang there at that time. I don't know that the only men on the pay-roll during the month of June, of the Pacific Power Company were R. H. Halpenny, P. R. Sheaff, Lee Campbell and C. Herring and that Mr. Granquist and Cook were not there at all. I know that they were there during the month of June.

I don't know whether they were working for nothing or not. I think Mr. Granquist sawed the tim-

187 bers of that lightning-arrester. I don't know

that Mr. Granquist had not been working for the company at all since the fourteenth day of May.

I am quite positive that Joe Cook was there at that time. I may have helped dig those holes, I don't know. I don't know which one it was dug them. I can't account for those details. I don't know every little detail of the work I did or what someone else did. I do not know every detail of the conversation, perhaps. I know of his doing this work around the

transformer house while the conversation was

188 going on. I am quite sure he was not with

the group tying in the horns of the arrester at the time that conversation was going on. I don't know how I remember that little detail so clearly. I was not there, I think, while the fence around the



(Testimony of Clifton Herring.)

lightning-arrester was being constructed. I think I saw the fence there before the accident. I don't know just when. Some time after I had finished this lightning-arrester work, I went to work for the Nevada Hills Company, and at various times, I think I

observed this substation and [278] saw the  
189 fence around it during those times. There

was a danger sign I think on the front door, on the door of the substation. I think it was a blue-print of danger, just a blue-print of the word "danger." I think it was tacked up on the door of the substation. I am not sure whether there was a danger sign on the switchpole or not. I rather think there was a danger sign on the switchposts, I am not

sure. It is my best recollection that there  
190 was one there. I think that was a printed sign. I think the wording of the sign was simply the word "danger." My best recollection is that it read "Danger. Keep out." It was in large plain letters. I don't think I saw any danger sign on the Wonder substation. I don't remember a danger sign there printed on a board crudely with black paint. I believe the Pacific Power Company paid me four dollars a day. The Hydro-Electric Company were paying me four dollars a day.

Redirect Examination by Mr. GEDNEY.

At the time this conversation took place all  
191 the material had been brought over to that location before the horns were put up. During the time Mr. Sheaff was doing that bull-ringing work he was coming in contact with the linemen during his

(Testimony of Clifton Herring.)

work that day. At times he could talk with them. He was working upon the telephone wires. He would be up close to the wagon as the wires were being reeled off; the linemen was strung out a pole's length from each other behind him. My purpose of patrolling that line was to determine if there was any trouble on the line of any sort. This sixty  
192 thousand volt, or fifty-five thousand volt power had been turned on before that time. I don't think it was running on the line at the time we were patrolling. I am quite sure that the switch [279] had been opened at Aurora, or Lucky Boy, so that if any trouble did develop on the line, we could repair the line. I think the high power had not been running regularly at any time before we patrolled that line. I think that four, five or six men did the whole thing on this lightning-arrester  
193 that day. These timbers on the bottom of the lightning-arrester to which you call my attention, I don't think had been framed before that day, or any work done on them. I think this danger sign was on the south side of this post (indicating on model). The trail coming up the hill came up on that side of the substation, and I think the sign was placed on that side.

Mr. GEDNEY.—Q. Could you see that sign so as to be able to read it from the locality of any of  
194 these three holes that you saw under the dead arms of the lightning-arrester?

A. If I am right in the location of the sign on that pole, it could be seen from that end of the lightning-

(Testimony of Clifton Herring.)

arrester, but not from the other.

Mr. CANNON.—Do you mean from the south end?     A. Yes.

Mr. GEDNEY.—Q. Could you read it from there?

A. Why, I presume so.

Q. That is, was it turned in such position, that it could be read from that point?

A. That is my impression, yes.

Recross-examination by Mr. CANNON.

The trail came up this south side of this enclosure, up on that side, and it is my impression that the sign was put across the south side of this post. I believe there was no obstruction between this point where the wires joined the substation on the south, and the post where the sign was placed. A person going in that enclosure at the point you have mentioned, and walking over in this direction to the point where [280] the first pole appears, would be walking practically directly toward that danger sign. In looking around there for that watch, I was careful to keep away from those live wires. I knew the danger of those live wires.

Mr. CANNON.—Q. And you were a four dollar a day man, weren't you?     A. No, not then.

The COURT.—I think I will strike out that testimony with reference to the four dollars a day, and the answer also.

Mr. CANNON.—We note an exception.

The action of the Court in striking out said an-



(Testimony of Clifton Herring.)

swer is here assigned as

**Error No. 22.**

The COURT.—I have been unable to find anything in the direct examination of this witness with reference to his wages and the capacity in which he was employed. When the question was asked  
197 Mr. Gedney objected to it on the ground that it was not within the issues, and not cross-examination. That question and answer will be stricken out. And this last question, “And you were a four dollar a day man,” and the answer “not then,” will be stricken out. Both questions and answers will be stricken out as not a part of the cross-examination.

Mr. CANNON.—We note an exception.

The COURT.—You may have the exception.

The action of the Court in striking out said testimony is here assigned as

**Error No. 23.**

**[Testimony of Dr. George M. Gardner, for Plaintiff.]**

Dr. GEORGE M. GARDNER, called as a  
198 witness on behalf of plaintiff, being first duly sworn, testified as follows:

I am a physician and surgeon and reside at Fallon, Nevada. [281] I am a graduate of Cooper Medical College, 1896. I never acted as an interne anywhere. I have been in constant practice since then. I am acquainted with Mr. Sheaff. I believe I first saw him on July 18th, 1911, at about six P. M. He was brought to Fallon from Fairview to the

(Testimony of Dr. George M. Gardner.)

Rand Hotel, situated next to my office. He  
199 was suffering from burns. He was suffering  
from eight circumscribed burns upon the left  
shoulder and upper arm, varying in diameter from  
a half to about an inch and a half; burns of the third  
degree, which extended through the skin, subcutane-  
ous tissue and muscular tissue, for the depth of about  
an inch. The eight burns covered the left shoulder,  
the upper portion of the left arm, and the super-  
scapular region of the left portion of the back, about.  
By "superscapular," I mean the upper portion of  
the left shoulder. By "subcutaneous," I mean the  
tissue immediately beneath the skin. There  
200 are several layers to the skin. There is the  
outer layer of squamosepithelium—I would  
say four or five layers of epithelium; then there is  
fibrous layer; then come the layers that contain the  
circulatory vessels and nerves, and also the nerve  
filaments run into the epithelial layers. The term  
"circumscribed" would indicate the line between the  
unburned and the burned tissue, in a circle. By  
burn of the "third degree," I mean a burn which has  
destroyed the entire skin, or more than the entire  
skin. These eight burns, so far as the third degree is  
concerned, were connected by what I have  
201 termed the first degree burns. In this first  
degree burn the epithelial layer of the skin  
was destroyed—a surface burn. He had a circum-  
scribed burn on the right shoulder, the upper and  
outer portion of the right shoulder, which was of the  
third degree, with a diameter of about an inch and a

(Testimony of Dr. George M. Gardner.)

half, destroying the skin subcutaneous tissue and muscular tissue to the depth of about a half to three-quarters [282] of an inch. He had on the right side of the back a wedge-shaped burn, about  
202 ten inches long, four to five inches wide at its base in the upper portion—that is, the base was in the upper portion; the situation of the burn would be in the supescapular; the scapular and the subscapular and interscapular regions. At the upper portion, the base of the wedge was a circumscribed area of burned tissue, the diameter of which was about an inch and a half, and in depth was down to the scapular bone. On the left foot there was a burn of the third degree, destroying the skin, subcutaneous tissue, muscular tissue, the nerve  
203 filaments and the extensor tendons of the three smaller toes. This burn extended from the ankle joint above to the toes below, about ten to twelve inches long and about three inches wide. The two smaller toes were completely destroyed, being a solid mass of charred tissue. Those two toes I removed. On the right foot there was a burn of the third degree, extending from about two inches above the ankle joint downward, forward and inward to the inner angle of the planter surface of the foot; thence across to the outer angle of the planter surface, stopping at the small toe. This burn was one  
204 of the third degree, destroying the skin, subcutaneous tissue, and nerve filaments; on the planter surface destroying the extensor ligaments, planter facia, and all muscular tissue down to



(Testimony of Dr. George M. Gardner.)

the bone affecting the periosteum. The planter arch, in common term, is the bottom of the foot.

Mr. GEDNEY.—Q. What is the outer planter surface?

A. The angle, the outer planter—call it surface, to indicate the outside of the bottom of the foot; the inner angle is the inner side of the bottom of the foot.

WITNESS.—(Continuing.) There were superficial burns from the back, extending up to the back of his neck, and to the right [283] side of  
205 his face, to the upper angle of the left ear.

Those were superficial burns—didn't amount to anything, just say they were superficial burns. Aside from the burns that I have described, he was suffering intense pain; he was in more or less of a subconscious condition—a periodical subconscious condition. He was suffering shock; he had a subnormal temperature; he had a pulse of a hundred and ten, and his respirations were thirty a minute. The normal temperature is ninety-eight, and from  
two to six-tenths. The normal respiration is  
206 about eighteen. His pulse at that time when I took it, after he was laid on the bed, was one hundred and ten. The normal pulse is about seventy-four. He was suffering from intense pain when the dressings were removed; the removal of the dressings was extremely painful, and the dressing of the wounds extremely painful; that is, the operation in the taking off and putting on of the dressings; he would roll in agony and grasp the bed clothes, and showed every sign of the most intense suffering. I

(Testimony of Dr. George M. Gardner.)

207 treated the wounds, removing all of the charred material, burned materials—all that was possible to remove; dressed the wounds with oil and limewater for the relief of pain and to keep out the air. The deeper wounds I dressed first by using antiseptics; and continued each day to remove as much of the burned material as it was possible to remove; and later on as healthy granulations appeared, I continued to dress antiseptically the wounds, until I had finished the work. By the extensor tendons, I mean the tendons on the upper surface of the foot; those tendons, which extend the foot. The tendons supplying the three small 208 toes of the left foot were destroyed. They are in the planter surface of the foot. At the present time, that whole mass is a scar tissue mass. I am speaking with respect to the right foot. The planter surface of the left foot is not a scar tissue. The left foot is the dorsal surface. If you understood [284] me to testify that in the left foot the tendons supplying the three smaller toes were destroyed, that is a mistake. They are destroyed to a degree in the left foot; but whatever is left 209 of those tendons and filaments is involved in scar tissue; they are absolutely worthless; if there was a filament left; they were all charred and burned, and are now, at the present time, involved in a mass of scar tissue, if they are there at all. I removed the two smaller toes of the left foot the next morning after he arrived there; they were charred masses, and I cut one toe off without giving any

(Testimony of Dr. George M. Gardner.)

anaesthetic at all—simply took a knife and cut off the burned mass. I gave an anaesthetic for the other toe. I gave him heart stimulants for his  
210 shock; I gave him strychnine, hypodermically; one-thirteenth of a grain, repeated as it was necessary; also whiskey under the skin. I gave him morphine, guarded by atrophine—the morphine for the pain which he was suffering, and the atrophine to keep up his heart action—to guard the morphine; that was used as little as possible, as he was in a very serious condition. The strychnine was administered for his heart as a tonic—a stimulant. I believe I gave him whiskey. I gave him about fifty minimums—fifteen drops to twenty drops under  
211 the skin, hypodermically. That was administered also as a heart stimulant. I might say that I left out under the question of physical condition there, the condition of his water or urine, at the time he came in there. He was passing blood, and did so for about three weeks. The acute suffering continued for three weeks—of intense suffering—the most intense suffering that one could imagine; even with the giving of opiates it did not relieve him; in fact, it was impossible to give enough opiates to relieve him, on account of the condition that he  
212 was in, the weakness, in every sense, of the heart. Mr. Sheaff was confined to [285] his bed three months. After he came under my charge he did not sleep. For three weeks he never slept normally; all the rest that he could get would be out of opiates; and that was given to him in the



(Testimony of Dr. George M. Gardner.)

minimum amounts on account of his physical condition; even with opiates, even after giving him an opiate, he would not rest even then. In bed, the way he would lie would be on his side—on his right side mostly; if he would at any time roll back, on  
213 his back, he would immediately ask for relief from the position, on account of the burns on his back. When Mr. Sheaff was first brought to me his muscular condition physically was excellent. The only way that I could describe his physical condition, would be to say in toto, that he was about one of the best developed men that I ever saw—his muscular system was perfect. He commenced to run down immediately; his general system, his general muscular system, became wasted. He became emaciated; the term “emaciation” would be an extreme dropping of the muscular system to a very  
214 low ebb; all muscles becoming flabby and the color of his skin changing to such an extent that the term emaciation would be used—loss of weight. I could not give you his weight when he came there, and I didn’t weigh him afterwards; the only thing I can say is that there was such a great difference between his condition, that one offhand might judge that he had lost thirty or thirty-five pounds, possibly more—possibly forty pounds. Mr. Sheaff is permanently crippled in both feet. I base  
215 that upon the extent of the burns, the loss of the several tissues involved, and upon the scar tissue that is formed in the place of the tissues destroyed; and knowing from the first that such scar

(Testimony of Dr. George M. Gardner.)

tissue must necessarily form from the amount of destruction present when I was treating him. The destruction of the extensor tendons takes away the motion that is produced by those tendons—the muscles connected with those tendons. [286] In my opinion, he will never be able to walk upon the right foot, because of the loss of the tendons, more particularly the scar tissue which has formed in  
216 that region being inelastic, and so deeply involved; that scar tissue involves all of the region where the destruction took place. The right foot at the present time is healed. The right foot abscessed under this scar tissue about sixty days ago, and broke out on the ball of the foot just at the base of the small toe; the abscess running from the middle of the planter surface, just under the scar tissue; to this opening. That was treated antiseptically, and closed up about thirty days ago; it was about  
thirty days running the last time. That has  
217 occurred, I believe, that is the sixth time since he was burned; this abscess forming there, and it was due to the fact that he was over-exercising the foot; gave it a little more exercise than it could stand and these abscesses formed each time that he has done that. The tendon of Achilles is very much shorter—pulled up. The cause of that shortening was the involvement of the tendon in the scar tissue; and the contraction of the tendon, due to the inflammatory condition that was present during the  
latter part of his injury. The ankle joint has  
218 a limited motion, due to the contracture of the extensor tendons; or due to the scar tissue that

(Testimony of Dr. George M. Gardner.)

has taken the place of the extensor tendons. The joint cavity was not affected, as far as I could see. The burn at the ankle joint went down apparently to the bone tissue, and right up against the cavity of the joint. These burns had the effect that the tissue sloughed away, and was removed in large masses by myself at intervals when the separation took place, between the healthy tissue and the dead tissue. This sloughing condition continued for about three months.

Mr. CURLER.—Mr. Sheaff, will you just  
219 step up here. [287]

(The plaintiff comes forward.)

Q. Doctor, I wish you would show on Mr. Sheaff's foot—right foot—where the tendons were that you say were destroyed.

A. Right in here at this point (indicating on foot of plaintiff). On the planter surface is where the destruction has taken place, at this region. Those tendons run right down through here (showing); and, in fact, the whole distance, these tendons have been affected; but here (indicating on plaintiff's foot) is the main portion; that was clear to the bone.

Q. What do you mean by "here"?

220 A. On the planter surface, the bones were exposed,—right in this region (showing).

Q. The bones were exposed right in this region, what do you mean by "this region"?

A. On the planter surface of the foot, about the center.

Q. Doctor, how much motion is there to that foot?



(Testimony of Dr. George M. Gardner.)

A. Well, there is the motion (illustrating with the foot of plaintiff.) Here is the place—

Q. (Intg.) I was just going to ask you, will you show the jury where that abscess that you spoke of that just healed thirty days ago, was?

A. The abscess cavity was here (indicat-  
221 ing).

Q. By “here” where do you mean, in the center of the foot?

A. In the center of the foot on the planter surface, under the scar, and ran forward to that part of the small toe, and broke through under the small toe.

WITNESS.—(Continuing.) The effect on the nerves and blood vessels in that foot has been a lack of sensation, in the scar tissue, right here, (showing on foot of plaintiff), right around in this region.

The top of the foot, the extensor [288] sur-  
222 face is also anaesthetized; you can take and stick a pin in—do you want me to stick it in?

Mr. CURLER.—No, never mind.

The WITNESS.—You can’t hurt it, anyway.

WITNESS.—(Continuing.) I find the tendons of Achilles solid, outside of the contraction; it is all there. That tendon is very inelastic now. That which you show me is a photograph. I know this is a photograph of Mr. Sheaff’s back. It was taken on September 6th, 1911. That is a fair representation of the appearance of the right shoulder of Mr. Sheaff’s back at that time. I was present when the  
photograph was taken.

223 Mr. CURLER.—We offer it in evidence.

Mr. CANNON.—No objection.

(Testimony of Dr. George M. Gardner.)

The COURT.—It will be admitted. Have you others?

Mr. CURLER.—Yes.

The COURT.—Hand them all to counsel, and the one you wish the jury to look at may be passed around now.

Mr. CURLER.—Have you any objection to those photographs?

Mr. CANNON.—Yes, I have an objection to these photographs, in this, that apparently they are photographs of parts of the body, and with bandages and other evidences of treatment by physicians; in other words, that it don't purport to show the bare evidence, without regard to the dressings, of  
224 whatever has been done by the physician, or others, in connection with it. I did not object to the other photograph, because it presented the bare back, but these photographs present some surgical conditions in connection with them, and I therefore object on those grounds; and on the additional ground that they can serve no useful purpose in this case, other than create some sympathetic consideration. [289]

The COURT.—The objection will be overruled.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said photographs to be admitted in evidence is here assigned as

**Error No. 24.**

225 WITNESS.—(Continuing.) These photographs were all taken on the sixth day of September, 1911.

(Testimony of Dr. George M. Gardner.)

I was present at the time. They are fair representations of what they purport to show, as it appeared at that time.

Mr. CURLER.—I think I will have these marked separately.

Mr. CANNON.—Are you going to offer them separately, or have you offered them yet?

Mr. CURLER.—I offer them all in evidence, and I offer them separately so as to designate each one for the purposes of the record.

Mr. CANNON.—I object to each and all of  
226 these photographs being admitted in evidence;  
and object to each of them on each and all of  
the grounds heretofore stated.

The COURT.—The objection will be overruled.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said photographs to be received in evidence and shown to the jury is here assigned as

**Error No. 25.**

(The photographs are marked Plaintiff's Exhibits Nos. 4, 5, 6, 7 and 8, respectively, and shown to the jury.)

There is about three-quarters of an inch difference  
in the length of Mr. Sheaff's foot, as near as  
227 I can tell. The right foot is smaller. The  
dragging up of the scar tissue causes the  
difference in the length of the foot. The scar tissue  
dragging up is also the cause of the difference in the  
[290] size of the right foot. The right foot is very  
cold at all times as compared with the left foot. Mr.



(Testimony of Dr. George M. Gardner.)

Sheaff will never be able to place the right foot on the ground while in an erect position, and he will never be able to walk on the foot because of  
228 the scar tissue that is present; because of the loss of the ligaments that should do the work; because of the dragging up of the tendon Achilles; because of the pain it would produce, and has produced. Mr. Sheaff will be able to do no manual labor that will require the use of his feet. Those spots in Plaintiff's Exhibit Number 5 are the circumscribed areas of the burns that I have described heretofore on the right shoulder—taken September 6th. The third toe from the small toe of the left foot is absolutely immovable; it is bound tight to the foot; the burn caused that.

Cross-examination by Mr. CANNON.

229 I graduated from Cooper Medical College in 1896 and came direct to Elko, Nevada. I practiced there eight years and then I went to Fallon. I have practiced there to the present time. I never took any post graduate course in the Cooper Medical College. I have been back several times to the clinics in San Francisco, just visited them occasionally. I was twenty-two or twenty-three when I graduated. It was a four-year course. I was not an interne in a hospital. As a part of the course we had to perform our ordinary duties in  
230 clinics. Aside from that I have had my own hospital service; I have had two thousand men under my care in my own hospital. Outside of my own hospital service, I have never had any service in any hospitals in San Francisco or in the East or

(Testimony of Dr. George M. Gardner.)

in Europe. My practice is mostly surgical. I have learned modern surgical methods by study and practice and observation. I have had opportunities of observing Doctor Stanley Stillman; Doctor Emmitt Rixford, Doctor Rigdon, and many other surgeons

[291] connected with the Lane Hospital, that  
231 is, during the time I dropped into the clinic when I happened to be in San Francisco. I

have assisted these gentlemen many times on cases. I have taken to them in my early practice. I was accustomed to take surgical cases to San Francisco up to within the last three or four years. In the last three or four years, I have ceased taking surgical cases to San Francisco or some other city, with the exception of probably two or three times. During the last two or three years, I have taken surgical cases to San Francisco for treatment. I did not take

Mr. Sheaff to San Francisco. I did not oppose  
232 taking Mr. Sheaff. Since I undertook the treatment of Mr. Sheaff, I don't believe I have

taken cases to San Francisco for treatment by some of these eminent surgeons I have mentioned. I might have taken one. There is a bare possibility that I had a gall-bladder case that I took to San Francisco. I have had experience in skin grafting. I have never spliced a tendon; I have seen it done. I have cut the tendon Achilles in different cases. I have lengthened the tendon Achilles when there was

a contraction of it. I have performed the  
233 operation of lengthening the tendon Achilles.

It can be done early in life. By contraction of the tendon Achilles the heel is drawn up. When that

(Testimony of Dr. George M. Gardner.)

tendon is involved in the scar tissue, the tendon cannot be lengthened and brought back to the condition it originally was. That tendon can be lengthened by the splicing method. That has been in vogue by some surgeons.

Mr. CANNON.—Q. Now, just tell us how the tendon Achilles can be lengthened by the splicing method.

A. I can give you an illustration on the board, if you want.

Q. You can give us an illustration on the blackboard.

234 (Witness draws on blackboard.) [292]

[Exhibit—Illustration Drawn on Blackboard as to Tendon Achilles.]



A. By cutting them on that one side of it, and cutting down through here, you let the tendon slip. That is not a very good illustration; I am not much of an artist. By cutting in here and down here (show-



(Testimony of Dr. George M. Gardner.)

drop, leaving just a section of the tendon on the other side to hold it. By the lengthening method; by that method, if it were not in scar tissue at the present, you could lengthen the tendon all  
234 right enough; you could lengthen it anyway if the scar tissue is there, but you will have no better result by that than you have at present.

Q. Would you explain this drawing a little more particularly?

A. Well, it is a method of cutting out this section, and letting this side drop down, by thinning this tendon out; it is a matter of plastic work, some work that I have never done; the operations that I have performed has been to cut entirely through the tendon, leaving the posterior wall for the healing up  
of the tendon on that wall. That method is  
235 the one in vogue. This method here is in vogue also, but is of no more avail than the other method.

WITNESS.—Continuing.) I have never performed this operation but I have cut the other—cut the tendon in the other operation. The other operation also has the effect of lengthening [293] the tendon. There are really two ways by which a tendon which is contracted may be lengthened. One of those ways I have used myself and the other I have not. Both are in vogue. I have never consulted  
with any of these eminent surgeons that I have  
236 mentioned as to the advisability of lengthening the tendon Achilles on this particular plaintiff—I didn't feel it was necessary. I was content to rely upon my own judgment absolutely in the

(Testimony of Dr. George M. Gardner.)

matter and I never was requested at any time to do anything. I was satisfied with my own judgment in that case. I didn't think it was necessary to consult with anyone as to the advisability of lengthening that tendon. I said in response to a question you asked me while the foot was bare, that the tendon Achilles was all there; that is correct. That  
237 scar tissue involves—drags up along the side of the Tendon Achilles. I don't think it would bother much to disconnect scar tissue from the tendon itself. That is a very easy thing as far as that is concerned. By simple surgical interference of that kind you can get the tendon Achilles separated from the scar tissue in its neighborhood. A tendon is a fibrous—white fibrous tissue—that connects the muscle at the one end to a bone at the other, for the purpose of producing motion through the contraction of the muscle. A muscle is a tissue that  
238 contracts and expands. It is through the muscle that we get the motion. A tendon is fastened to the end of the muscle. That has no natural contraction or expansion. It is a very tough, strong fibre. There is nothing in the way to prevent, from the surgical standpoint, that tendon Achilles being lengthened. It is contracted now. That contraction has the effect of drawing up the heel; that helps to hold the foot fast in the position that we have observed it. If that condition were removed, it would lower the heel, and in lowering the  
239 heel, it would tend to [294] bring the foot in the natural position, and weaken the ten-

(Testimony of Dr. George M. Gardner.)

don. When a tendon is lengthened by proper surgical interference that tendon is never as good as it was originally. I know that through experience. I have lengthened it. I consider the method I have attempted to show on the board the poorest method of the two. That is the reason I don't try it. I have seen the results of that method, I never had a case of my own that I ever performed that operation on; I have seen the result of that  
240 operation but have not been continuously with the case. I remember one particular instance; a man who had that tendon lengthened in that way. Nature always tries to help. My opinion is based upon my own experience in regard to tendons and the seeing of other cases. I have had several operations. I have had four cases by the other method. They came a considerable distance apart. The tendon was lengthened all right; it also united; the leg was weak and always will be weak, in my judgment; the legs don't develop properly after that.

I had about the same success with the second  
241 and with the third, and with the fourth. I would consider them all successes. I did these on children who had drawn-up tendon Achilles-club-feet; and I found that the development of the leg and the tendon was as good as it could have been originally. The feet were changed in the direction. The feet became more usable than they were before, I think. They were in better direction anyway; they were in the normal shape. Being in the normal shape they got more use out of them. With the condition of the person here, with an adult, you



(Testimony of Dr. George M. Gardner.)

would not get such good results. As to  
242 whether you would get improvement, I ques-  
tion it, I don't know. Under ordinary cir-  
cumstances, an adult, twenty-six years old is not a  
bad subject for operative purposes. A man who is,  
aside from his injuries, a perfect physical specimen,  
young, is really a very fine subject for operative  
measures, for certain [295] things. It is not a  
fact that I could bring that right foot back into nor-  
mal position by lengthening that tendon because of

the scar tissue that is under his foot. That  
243 scar tissue can be massaged, that is the best  
you could do for the scar tissue on that foot.

Unless it is a very superficial scar, nothing can be  
done for it. In the case of superficial scar tissue,  
the same thing can be done—a massage. Skin graft-  
ing is resorted to, to cover large areas of uncovered  
tissue, and to cover up the space which is sometimes  
filled by scar tissue. It is not possible in this case  
to cover that area with good skin, the scar is too deep.  
If you had a raw area, uncovered by skin, if the base  
of that area was healthy, you could put a skin  
244 graft on it successfully; but where an area is  
destroyed en masse, and where there is no  
chance for you to put a skin graft on, because there  
is no tissue there to put it on, you could not skin  
graft. I have never consulted with anybody about  
the possibility of skin grafting in this particular  
case. It occurs to me that skin grafting could not be  
done in this case. I don't think it has ever occurred  
to me that I might be wrong in my opinion.

(Testimony of Dr. George M. Gardner.)

These tendons that were involved in this right foot were the extensor tendons. They lie on the  
245 planter surface of the foot. The extensor longus digitorum, the extensor hallucis and the extensor brevis tendons all lie on the planter surface of the foot. A flexor tendon of the foot is one that draws the foot up, and the extensor tendon is one that pulls downward. When I close my hand the flexor tendons come into operation. When I open my hand the extensors come into operation. The extensors are on the back of my hand and the flexors are on the inside of my hand. Now, a person in moving his toes draws them up similarly to a person closing his hand. [296]

246 Those tendons that pull the toes up are, and they are not flexor tendons. Some authors have tried to call the—what I am terming the extensor tendons, the flexor tendons, and some would term it the opposite; now you can take that for what you wish, if you wish to call those extensor tendons or flexor tendons, you are right in either case. We would both be right about it; but I choose to call those the extensor tendons, and in referring to them have referred to them in that way. I call an  
247 extensor tendon one that flexes, and I call one that flexes an extensor. You can interchange the term. I have interchanged them myself. That is all right, some authorities use them that way. Some have changed, reversed the order, and call the extensor the flexor, and the flexor the extensor. The office of these tendons that I speak of is to flex the toes. These tendons run around in this direc-

(Testimony of Dr. George M. Gardner.)

tion over the foot, fasten to the bone, and perform the office of flexing the toes. There are other ten-

dons on the back of the foot that run down,  
248 and connect with the toes on the other side,

and perform the office of pulling the toes out again when they have been flexed. Some of these tendons run in pairs and some don't. One pulls on

a bone and the other pulls the bone back in place again. One is on the under side of the toe, and the

other will be on the top of the toe. These tendons which you call the flexor tendons and which I call extensor are involved in this scar tissue on the bot-

tom of the foot. They are destroyed in that  
249 foot. I know that they are destroyed because

when I opened that—when I first saw that foot, I took out the mass, and pulled the tendons out

—pulled out the pieces in toto from it; and it was burnd clear to the bone and I could see the bone beneath the tendons, and beneath the facia; therefore they are gone. I could see the ends of tendons

—fibrous ends. I saw them. [297] When the tissue that sloughed off there enabled me to see, I could see the mass of the ends of the tendons coming out

in strings. It would have been absolutely im-  
250 possible to fasten them together, or heal them.

I should say I made no attempt to do it. It is not a proper case in surgery in any sloughing masses where you find tendons cut in two to fasten those tendons together. The tendons themselves are sloughing masses. Yes, they were involved; they were burned and charred; and it would have been impossible to have extended those tendons



(Testimony of Dr. George M. Gardner.)

across that burned mass in the condition that it was  
in, in the sloughing condition, and ever expect to  
get a primary union; or any kind of a union at  
251 all. I treated that sloughing mass antisepti-  
cally, and it would have been absolutely im-  
possible to have attached those tendons in the  
sloughing condition that was present. Dr. Lehn-  
ers of Fallon looked at that with a professional eye to  
see whether it should be let alone or something done  
with it. He was the Doctor that took my place in  
attending the patient while I was in San Francisco  
for a time. He was the only other physician in Fal-  
lon who ever in any way acted with me in the treat-  
ment of that case. He and I consulted  
252 whether those tendons should be left to take  
care of themselves, or whether something  
should be done with them surgically. We never  
talked about their ever being joined because the sub-  
ject was so foreign to ever possibly being joined that  
we could not talk about it. We did not talk about  
joining those tendons. We did not consult on that  
subject. That foot can't be helped. I can't help  
that foot. I give it up. The lengthening of that  
tendon Achilles won't help that foot. I was con-  
templating cutting off his leg. He would have a  
wooden leg. I think it would enable him to  
253 throw away his crutches, and would, I believe,  
enable him to walk along the street so that  
people would hardly observe that there was anything  
the matter with him. [298]

Mr. CANNON.—Q. It might even happen with

(Testimony of Dr. George M. Gardner.)

both feet, might it not, Doctor?

A. I think I have a pretty fair demonstration of a couple here.

Q. I don't want to pursue anything personal.

A. I am not ticklish about it.

Q. You have no objection to stating it to the jury, that you yourself are in that condition?

A. Yes, sir.

254 Q. It seems to me you are the best possible illustration of the success in that direction that I have ever had occasion to observe.

A. Well, taking into consideration the fact that I am not a laborer, I do fairly well.

WITNESS.—(Continuing.) I even operate my own automobile myself in that condition and perform all the multitudinous duties of a physician and surgeon in that condition. I was in that same condition when I had these two thousand men to look after, and I managed to do the medical and surgical work for those two thousand men in that condition.

I would rather take his leg off myself; I believe that is the best thing. I would prefer to  
255 remove his foot for the sake of the pain that he has. On the sixth of September, when these photographs were taken, I believe at that time the patient conceived the idea of suing the company. He told me he wanted to get these photographs taken, that he might need them later. I didn't see any lawyers around when these photographs were taken. The patient himself told me that he was figuring on a damage suit against this company if the company

(Testimony of Dr. George M. Gardner.)

256 did not treat him right, or something of that kind. He said he was sorry he had not taken them before, because they would have looked so much worse. I didn't suggest the taking of these photographs. [299] I saw a telegram which was sent to Mr. Gileece. Mr. Gileece had it with him on the same day of the injury, I think.

Mr. CANNON.—Q. I call your attention to this part of this letter that is quoted, and ask you if that is the substance of that telegram? (Handing letter to witness.)

A. (Reading:) “If Sheaff is badly hurt and proper medical attention cannot be had at Fallon, better take him to Reno. Understand that  
257 Doctor Sidney Morrison is reliable and can place in good hospital.” That is the telegram, yes.

Mr. CANNON.—We offer that in evidence.

(The telegram as read by the witness, is read to the jury by counsel for Defendant.)

WITNESS. — (Continuing.) I don't know whether I sent a telegram to the Pacific Power Company on July 19th, after seeing the telegram I have just identified. I don't know whether I did or not, I might have.

Mr. CANNON.—Q. I show you what pur-  
258 ports to be a copy of a telegram signed and sent by you, and ask you if you sent the original of that, and if that is a correct copy? (Hands to witness.)

A. Yes, I sent this.

Q. You sent that telegram, did you? A. Yes.



(Testimony of Dr. George M. Gardner.)

Mr. CANNON.—We offer that in evidence.

The COURT.—Very well, it will be admitted.

(The telegram is marked Defendant's Exhibit "R," and read to the jury:)

[Defendant's Exhibit "R"—Telegram, July 19, 1911, Dr. Gardner to Pacific Electric Co.]

"Received at 9:40 A. M.

July 19th, 1911.

Dated Fallon, Nevada.

To Pacific Electric Co.,

Bodie, Calif.

Mr. A. Sheif serious burn but is doing as  
259 well as could be expected. He is comfortably  
located and I am giving [300] him the best  
of care. His recovery necessary will be slow but out-  
come should be favorable.

Dr. G. N. GARDNER."

WITNESS.—(Continuing.) That was my diag-  
nosis at the time I sent that telegram. That diag-  
nosis was wrong evidently. When I said that he  
received a serious burn that was a diagnosis and  
when I said that his recovery would be slow, but out-  
come should be favorable, that was a prognosis. I  
was in charge of the case at that time. I saw the  
suggestion as to his being taken to Reno to a hospital.

The answer to that was that the man who re-  
260 ceived the telegram told me he was satisfied  
he could get as good service in Fallon as he  
could at Reno, therefore he left him in Fallon in my  
charge. I sent that telegram as a matter of infor-  
mation, to let them know that he was still alive, and  
doing as well as could be expected, and the expect-

(Testimony of Dr. George M. Gardner.)

tancy shown was very good. I treated him regularly and steadily over three months—daily treatment, After that my treatment was intermittent. I treated him after that but that is all I ever charged  
261 the company with. I was not assisting in the preparations for the commencement of this suit against the company. I have given the patient assistance. With respect to the commencement of this suit, I have not had anything to do with the lawyers at all excepting since this suit was commenced. Before the suit was commenced, I was in conference with the attorneys just as a witness, as to what I knew. I was never in the attorney's office in regard to this suit before it was brought. In Fallon they asked me  
262 in regard to the condition of the patient. I gave them the injuries when they asked for them. That was along whenever the suit—whenever they started to talk about this. When the lawyers came there, I don't know what day it was. I could not give you the date to save me now. I was not in any long conference with them. I gave them this information that plaintiff [301] had received eight electrical burns in the upper and posterior portion of the left shoulder region. I gave them the information that the plaintiff had received “a burn on the right side in the suprascapular, scapular, infrascapular  
263 and interscapular regions.” And “a burn extending upward from said last-mentioned burn to both shoulders and to the neck behind, thence to the left side of the face as far as the upper portion of the left ear”; I gave them that. I described in detail for the attorneys, and for their

(Testimony of Dr. George M. Gardner.)

benefit, preparatory to the commencement of this suit, all of these injuries. I think I wrote that at my office in Fallon for them and sent it to them. I think that was along about the sixth of September

that the photographs were taken. I think it  
264 was the lawyer asked me for it. I came from

Fallon to be a witness here about sixty or sixty-five miles. I have been here all the time since this trial has been in progress having a good time and spending my time here and my money too. I was subpoenaed to come here. I have explained about the destruction of the tendons supplying the two smaller toes of the left foot. Those tendons are really no longer of any necessity, inasmuch as the toes which they were supposed to manipulate have been taken off. As I treated this right foot

265 and as the sloughing process proceeded, I would take the dead matter away. I observed carefully to see when healthy granulations would start. As my course of treatment went on, I observed that granulations proceeded along to its present state. After that healthy granulations had occurred and the sloughing had all ended, I made no attempt to catch up the loose ends of these tendons, and tie them, or fasten them together. Those tendons were then involved in a mass of granulations,

and the lengths of them never would have  
266 come across. You could not splice them at all, because of the distance of the burn; because of the sloughing [302] mass that continually kept up in separating, as the granulations followed it up; the skin on the outside, the scar tissue



(Testimony of Dr. George M. Gardner.)

kept forming in, just as the granulations came up; if the skin would come too fast you would have to hold it back. There was nothing for it to grow over, unless the mass of granulation tissue had filled in sufficiently to round the foot off nicely. The destruction was too great. Catching up the loose ends of those tendons, separating them from the  
267 scar tissue and joining them together again could not have been done. The entire tissue, tendons, *muscular* and everything, were destroyed. I made no attempt to do that. I did not consult with anybody else as to whether it should be done.

Mr. CANNON.—Q. I have drawn on the board what I conceive to be a representation of a means of splicing a tendon. Let this, Doctor, represent the tendon (referring to illustration on board); it is, say, the tendon Achilles; you make then an incision here, carrying it down through the center of the tendon, cutting off here—completely severing  
268 it? A. Yes.

Q. That is the idea so far, is it? A. Yes.

Q. Then they become separated, and the contraction is reduced in that way, is it? In other words, when it is cut in two there is the relief from the contraction, isn't there? A. Yes.

Q. It allows the heel to drop, that is right, isn't it? A. Yes.

Q. Then you take this part—the upper part—and draw it up, or draw the lower part down, put this end in juxtaposition with this end, and you  
269 have the result which [303] I show in the next figure, haven't you, Doctor? A. Yes.

(Testimony of Dr. George M. Gardner.)

Q. And then these two ends are put together, spliced, and nature heals them together, doesn't it?

A. Yes, partially.

Q. And then nature gets busy, and fills up the gaps that are left there? A. Yes, sir.

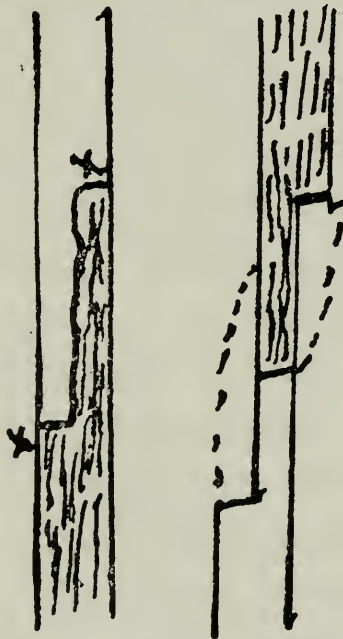
Q. That is the process, and that is the natural surgical process, isn't it? A. That is one of them.

Q. And that is recognized by the most eminent surgeons of the country, isn't it?

A. Yes, that is a recognized operation.

(The following are copies of the drawings made on the board by counsel:)

**[Copies of Drawings Made on Board by Counsel as to Splicing of Tendon Achilles.]**



270 Q. When the healthy granulation commenced on this foot, after the sloughing, why didn't you skin-graft on top of it?

A. The skin had already filled in—the scar tissue had filled in there.

Q. When the granulation was forming, or when it

(Testimony of Dr. George M. Gardner.)

had formed, couldn't you then have skin grafted?

A. No, the surface was sloughing to the last degree; as long as the surface was open there was always a slough going on there.

WITNESS.—(Continuing.) That contraction of the tendon Achilles continued, kept drawing up continuously, more and [304] more, for a  
271 period of three months. I took measures while treating this man to prevent that contraction from taking place. I tried to force the foot up into position, and draw it down by main force. Contraction could not have been prevented in this case. That contraction that turns a person's foot in that position is called Talipes equinas. There are two kinds of talipes equinas, the congenital and the acquired. The congenital is where it appears from the day of birth. Even those conditions are more easily remedied by an operation than this. The acquired talipes equinas is something that the  
272 surgeon notices as the case progresses. He can see it contracting more and more before his very eyes. Proper surgical treatment is to extend the foot, flex the foot; but it was absolutely impossible to do it with this foot, for the reason that it was in such a shape that pain alone—he could not have stood it; I tried it, and it could not have been done. If I could have put that foot by any flexion—flexing the foot, putting it in a normal position, that would have been the treatment; but the way this foot was, it was absolutely impossible to do it;  
273 I tried it, and abandoned it. That condition is sometimes caused by habitual posture. If



(Testimony of Dr. George M. Gardner.)

anybody's foot was simply put in that position and kept in that position in a plaster cast for a very considerable time, when the plaster cast was taken off the foot would be stiff and you could not handle it at all to a certain extent. That might have been acquired by a patient lying in bed suffering from injuries, holding his foot in that position because it was less painful than in some other position. The in-

274    inflammatory condition in the foot caused that pain. The contraction of the tendon Achilles

is what has put the foot in the condition it is in.

That is not the only thing. [305] The scar tissue involved through the mass of that foot also held that foot in that position. That scar tissue has contracted since—that foot is not in the position now that it was while it was being dressed; that contraction has taken place during the formation of scar tissue. At the end of my three months' treatment

that contraction was not present as much as it  
275    is now. There is not much difference in the contraction. The patient exercises that foot

as much as it is possible. I have always tried to keep him exercising it, trying to get rid of that condition; and find that it was absolutely impossible in the two years, or two years and a half, up to this time, that you find it just as it is there; he has made effort after effort, and I have coaxed him in every way, shape and form to try to get that foot down, and the result

is negligible. I recognize exercise as proper  
276    in his particular case. The joints are all right, so far as I have been able to observe.

In the right foot the joints are perfect so far as I

(Testimony of Dr. George M. Gardner.)

know, that is from the bone itself. The bone was involved to a certain extent, although I never made any particular note of it. I have assisted the patient in a way so that he could give the proper exercise which I say is beneficial. If I had lengthened the tendon Achilles, I don't know that it would have enabled the ankle joint to be used to a greater extent.

It would have produced an infection in that  
277 foot, if the tendon Achilles had been severed,

I would in all probability have infected the foot from the wound of injury that was already there, and would have created an inflammatory condition that might have created general blood poisoning, and I have never taken a chance of opening into the tendon. I don't mean danger from infection only from that which was already on the foot, an inflammatory condition. Right now if that tendon were lengthened it would drop his [306] foot.

With that reduced, it would be in a better con-  
278 dition for looks. I don't think it would be in

a better condition for exercise, because I think that he would do more by exercising his foot as he is; he cannot improve it over the condition it is in now. At present that tendon is contracted so that it is so tight there is hardly any motion there. If it were lengthened out to allow the heel to come down, I don't think there would be more motion. The heel would come down. I don't know that the heel would even drop when the tendon would come down there.

It might be stiff in other parts. He would  
279 never get exercise as long as he had that scar tissue there. I do advise exercise in the con-

(Testimony of Dr. George M. Gardner.)

dition he is in now, and I still advise it, and I think it is the only thing to do, and yet he gets no relief from it. I advised it with the hope that it might help him to get more motion, and more motion is certainly beneficial. I don't know as you would get more motion by dropping the heel—you would get a change of position. On the sixth of September, there was a heavier contraction than at the  
280 present time.

Mr. CANNON.—Q. I show you Plaintiff's Exhibit Number 7, representing the right foot, and ask you if there was as much contraction in that foot then on September 6th, as there is now?

A. Yes, sir, I would consider this just as much.

Q. I will show that to the jury. (Shows Plaintiff's Exhibit No. 7 to the jury.) I will ask you if that is not the practical and perfectly natural position of that foot in a person lying down or reclining.

A. Well, I know there was contraction then because I saw it.

281 Q. Is not that a perfectly natural position of the foot, with the person lying down?

[307]

A. It is the same position that he has now.

Q. Please answer the question.

A. Yes, a natural position of the foot lying down, the tendon is in contraction; that is just the way that is.

WITNESS.—(Continuing.) In addition to being in the position you have described, that foot is inverted to some extent. Scar tissue causes that inversion. Inversion is a drawing in. Scar tissue causes



(Testimony of Dr. George M. Gardner.)

that inversion by contraction, it is pulled out over to the direction of least resistance. The natural foot is pulled over in this direction, is inverted,  
281 by some tendons there that pull. The tendons are not destroyed up in the leg, they are destroyed right there in the scar tissue. That motion in that foot is produced by tendons and may be inverted or everted. It is inverted by the tendons pulling on the inside and everted by the tendons pulling on the outside.

Mr. CANNON.—Q. There is something pulling on the inside to produce that inversion?

A. The tendons involved in the scar tissue can pull it in that way.

Q. The scar tissue is not strong enough to  
281 pull a foot out of position in that way, is it?

A. Yes, sir; it is; the scar tissue is extremely strong.

Q. You say then that contraction was really present at the time represented by that picture?

A. I would not want to say it was exactly as it is now, but it was in contraction.

Q. Is this the consensus of surgical opinion with reference to whether or not this talipes equinas can be prevented or not; congenital deformity cannot be anticipated or prevented; acquired deformity is an evidence that protective treatment has [308] been neglected; it is a result, therefore, that may  
284 be foreseen and prevented, is that correct?

A. That is not true in all cases, no, sir.

WITNESS.—(Continuing.) To certain cases of talipes equinas that would be true, very true but

(Testimony of Dr. George M. Gardner.)

not in this case. I didn't consult with anybody on that subject, but it was absolutely impossible to continue with the methods, regardless of authorities. I like authorities when it is feasible; you will find many exceptions. It is not possible for him to put his foot on the ground while in an erect position to bear pressure.

Mr. CANNON.—Q. Would you say with  
285 the lengthened tendon, which you admit would drop the heel, that he would not be able to put that foot on the ground while standing in an erect position?

A. If you tear all the tissues away, tear away certain tissues, you can; you can put his foot on the ground; you can cut his foot off in the center and flatten it out; and you can cut the tendon Achilles, and cut all the ligaments in his foot, if you wanted to; you could straighten it out. I could straighten his foot out, yes—that is the way it appears to me.

Q. I am not asking you that; I am asking  
286 you about a simple proceeding, which you have said is a recognized method of surgery, and proper. Now, by that proper method—not by the methods you have suggested that you could do if you wanted to, but by a proper method, would he not be able to put his foot to the ground?

A. That might drop his foot, but if it did, I believe it would do him more injury than good.

Q. So you have said before; but I am asking  
287 you now whether you do not modify your statement made in direct examination, [309]

(Testimony of Dr. George M. Gardner.)

that he never would be able to put his foot on the ground?

A. Well, I will answer that question by saying that if the ankle joint was not affected, that the heel would drop to the ground.

Q. It would drop to the ground?

A. It would drop to the ground.

Q. It would drop to the ground then, by the operation of the ankle joint, which is intact, wouldn't it?

A. Well, we will say that it would drop to the ground.

Q. Let us go one step farther than dropping  
288 to the ground; it would drop to the ground by the use of that joint, wouldn't it, which is there? A. If it is not ankylosed any, yes.

Q. It is is not ankylosed? A. Yes.

Q. And if it is ankylosed, it was because that operation was not performed a long time ago, isn't it, before the bone became ankylosed? A. No.

Q. Now, your regular treatment of this patient ceased in about three months; this accident happened something like two years and a half ago; you have had, therefore, two years and a quarter within which  
289 to see if you could by some operative measures help that foot, haven't you?

A. I have not been treating him, only in suggestion as to what he should do with that foot.

Q. You have given him such treatment as was necessary from time to time, haven't you?

A. Yes.

Q. And you have had the foot under observation, therefore, haven't you? A. Yes.



(Testimony of Dr. George M. Gardner.)

Q. So that you have had that period of time within which to suggest some of these operative measures we have been mentioning here to-day, or some others, haven't you? [310]

A. Yes; I have always told him to exercise it  
290 just as hard as possible; to try and see if it was possible to get that tendon down, and also to flatten his foot; but it was impossible, has been impossible. I have had him rub it, and rub the scar tissue with oils, continuously do it, but it doesn't do any good.

Q. It would be a good thing to get the tendon down?

A. A good thing, yes; it would be a lovely thing if he could get his foot action.

Q. You say you have advised him to get that  
291 tendon down; now you know how to get that tendon down, don't you, without exercise?

A. He exercises it, and he doesn't get it down.

Q. But you know how by a simple operation, which you concede to be proper; you know how to get it down, don't you, and thus aid him in his exercise?

A. I don't think it would aid him, I think it would do him harm, if he was to have it done.

WITNESS.—(Continuing.) These burns that I speak of in the upper part of the body are of the first, second and third degree. A first degree  
292 burn is one that takes off the upper portion of the skin, the epithelial portion; a second degree burn is one that has gone still deeper, and

(Testimony of Dr. George M. Gardner.)

taken away some of the skin; and a third degree burn would indicate having gone through the skin, or more. The skin in its ordinary division is composed of the surface skin, or outside skin, called the epidermis, and the skin lying underneath, which is called the cutis vera, or real skin. This outside skin

is the kind that we scratch off, or that forms  
293 into a blister sometimes, very thin. A burn

of the first degree is one that merely affects that thin outside skin. A burn of the second degree is one that goes to some extent within the real skin, and a burn of the third degree is one that burns through the real skin, or more, from [311] there

on. There was a place on the back there, that was a third degree burn, and within the third degree burn is still another deeper burn, a circumscribed area. There is one burn that is very deep, the burn

on the back. That was a third degree burn,  
294 that burned down to the shoulder blade. That

whole burn covered the shoulder blade, that was the worst third degree burn on the back. The others were very much smaller and were around the shoulder, they were circumscribed burns, the diameter of an inch or an inch and a half, is the largest one, as I remember it now. When the patient was

brought into my care he had some clothing on. I believe he had his undershirt on. I didn't pay any attention to those garments to see what area of burning there was in them. I could not tell

whether or not these garments had caught  
295 fire, and had burned partly away, while the patient was insensible after the accident, or

(Testimony of Dr. George M. Gardner.)  
anything of that kind. The character of the burns would not indicate it. I didn't pay any particular attention to the shirts themselves.

Redirect Examination by Mr. CURLER.

To lengthen the tendon Achilles a surgical operation will be necessary, necessitating a period of non-use of the leg or of the foot. It would be attended by pain or suffering. If you cut off his foot it would

necessitate a surgical operation attended by  
296 pain or suffering. It would be pretty severe.

Physicians don't do either of those things for nothing if they can get out of it. Either of those operations would be attended with danger. The removal of the foot would be attended by a considerable amount of danger. There is always a mortality in those things. During the three months I was attending Mr. Sheaff, during the inflamed condition of the foot, it would have been a terrible thing if it had been touched in that condition; infection would absolutely have set in. There was [312] infection of that leg during this time. There was local infection from the absorption of deleterious material there, and burnt material, to the extent that his leg was inflamed—swollen—  
297 above his knee about two or three inches. That lasted about three weeks. That was a local blood poisoning, a local infection.

Mr. CANNON.—With respect to the mortality table which counsel asks me as to whether they will be required to lay any foundation; I don't care to insist upon any foundation as to the proof of the



(Testimony of Dr. George M. Gardner.)

table. It may be offered subject to my objection, without laying any foundation. As to another mat-

ter concerning which counsel desires to offer  
298 proof, namely, the amount which would be necessary to purchase an annuity at the age of twenty-six years, I have no objection to make to the correctness of the figures that are offered, and will not require any computations to verify the figures, but I have certain objections to offer to the testimony itself when counsel makes his offer.

The COURT.—The objection will not be as to the correctness of the figures, as I understand, but whether the testimony is admissible—no matter how conclusive the proof, the question is whether the testimony is admissible.

299 Mr. CANNON.—That is the idea. I don't want to put counsel to the trouble of laying any foundation.

The COURT.—You are perfectly willing to admit the testimony is correct, provided it is material?

Mr. CANNON.—That is the idea.

Mr. CURLER.—Then we offer, if your Honor please, the mortality table, the American Mortality table, and particularly, the expectancy table, insured lives, constructed from the mortality table, and found on page 482 of the Book, designated "Blue Book, Rates and Guarantees" of the Equitable Life  
[313] Assurance Society, being the same in all societies; and particularly that portion which shows the expectancy of life of a man twenty-six  
300 years of age.

Mr. CANNON.—We object to this, if your

(Testimony of Dr. George M. Gardner.)

Honor please, on the ground it is incompetent, irrelevant and immaterial; that there is nothing in the complaint which would raise an issue with respect to the expectancy of life of the plaintiff; that there is no allegation in the complaint with respect to earnings—capacity of the plaintiff to earn the amount he had been earning, what he was earning at the time of his accident; and no claim in the complaint for lost earnings after accident, up to the  
301 present time, or at any time in the future; that this character of testimony can only be relevant as being some evidence which the jury may take into consideration, and give whatever weight they determine it is entitled to, or none at all, as bearing upon the loss of future earnings on the part of the plaintiff; and there is no issue made in this complaint that I have been able to discover as to any loss of future earnings, or any loss of past earnings.

Mr. CANNON.—I would like to add also to my objection that these mortality tables are not ad-  
302 missible at all on a case of personal injuries, except in cases where there is a total incapacity to labor; where the evidence shows there is any capacity to labor, then they are not admissible.

The COURT.—Is that all?

Mr. CURLER.—I offer the Annuity Table, found on page 484.

The COURT.—And you offer also the table of “Expectancy of Life.”

Mr. CANNON.—We make the same objection on each and all of the grounds stated to the offer of

(Testimony of Dr. George M. Gardner.)

the Annuity Table. This is the first time in my experience a table like this has [314] been  
303 offered; they generally content themselves with the offer of the Expectancy Table.

Mr. CURLER.—I would like, if there is any question in the Court's mind on this subject, to produce some authorities.

The COURT.—Very well.

The COURT.—With reference to those annuity tables and the expectancy of life table, the annuity table will not be admitted, but the table of the expectancy of life will be. There is no objection made to that as to its correctness?

Mr. CANNON.—No, I did not require counsel to prove any foundation for its admissibility.

Mr. CURLER.—If your Honor please, I  
304 have mislaid the only table I have. Possibly counsel will admit that the expectancy of life of a man twenty-six years old is 38.1 years?

Mr. CANNON.—I think that is what it is. We note an exception to the ruling of the Court.

The COURT.—Let the exception be noted.

The action of the Court in allowing the Table of Life Expectancy to be admitted in evidence is here assigned as

**Error No. 26.**

**[Testimony of Charles H. Stone, for Plaintiff.]**

Mr. CHARLES H. STONE, produced as a witness on behalf of plaintiff, being first duly sworn, testified as follows:

305 Direct Examination By Mr. CURLER.

My name is Charles H. Stone. I am Sar-



(Testimony of Charles H. Stone.)

geant of State Police. I am principally engaged in the Identification Bureau. The duties of the Identification Bureau are to measure prisoners, take fingerprints, file them and compare the record. I have seen the plaintiff before at State Police Headquarters today. I made measurements of Mr. Sheaff. They were made [315] on the measuring board used by the State Police. He was dressed as

306 he is now, with the exception that he had on a high-top boot on his left foot and his trunk was bare. I measured the height of each shoulder and his height from the top of his head. I measured to a scar on the top of each shoulder. Mr. Sheaff stood on the measuring-board erect to his full height. It was the natural position of a man being measured for his height. His height was six feet, six and three-sixteenths inches. The height of the highest scar on the right shoulder was five feet, six and seven-eighths inches. The height of the highest scar on the left shoulder was five feet, seven inches.

Those were all the measurements I took.

307 Cross-examination by Mr. CANNON.

I made the measurements of the upper part of the body on the bare trunk. I made no measurement of the width of the shoulders from outside tip to outside tip. His back measures seventeen inches. From the extreme outside point of the shoulder across about the middle of the back to the extreme outside of the arms, with the arms at the sides—from about the middle of the back to the extreme outside is twenty-one inches. Across the hips with

(Testimony of Charles H. Stone.)

the arms at the sides to the outside is twenty-  
308 two inches. This measurement, as to the  
height of the shoulders from the ground was  
made with his shoulder in the natural position.  
That does not attempt to include any natural motion of raising the shoulder or either shoulder. I have never made any measurements as to the distance a person would increase that measurement by natural up-movement of the shoulder. There nearly always is a difference in the height of the two shoulders from the ground. I never measured to see how much difference, but in observing prisoners we measure we frequently notice that one shoulder is  
higher than the other.

309 Mr. CURLER.—We desire to prove that the  
shoe that [316] the plaintiff wore when he  
was measured by Mr. Stone was the same shoe that  
he wore on his left foot the day of the accident, and  
that it is in the identical condition now that it was  
at that time; in other words that it has not been  
worn since that day.

Mr. CANNON.—If it is stated as a fact, I will not  
object to it on that ground, but simply object to it  
on the ground it is incompetent and irrelevant.

310 The COURT.—Then it is admitted to be  
true, provided it is competent.

Mr. CANNON.—Provided it is relevant, material  
and competent.

The COURT.—Well, your objection is overruled,  
and it will be admitted.

Mr. CANNON.—We note an exception.

(Testimony of Charles H. Stone.)

The action of the Court in admitting said evidence is here assigned as

**Error No. 27.**

(Plaintiff thereupon rested.)

Mr. CANNON.—If the Court please, we move in this case for a nonsuit, and for a peremptory instruction to the jury, requiring and directing the jury to return a verdict for the defendant, on the following grounds:

311       1. That the complaint fails to state a cause of action.

2. That the evidence fails to prove the material allegations of the complaint.

3. That the evidence fails to show that the lightning-arrester described in the complaint and in the evidence, was defective in the particulars alleged in the complaint, or any of them, or in any particular whatsoever, or defectively built or constructed, or maintained, or that plaintiff was injured [317] by or through any such defect.

4. That the evidence fails to show that the defendant put the plaintiff at dangerous work, or that plaintiff was inexperienced in the work at  
312       which he was placed, or ignorant of the dangers thereof, or that defendant knew, or ought to have known, of plaintiff's ignorance, or inexperience, or that plaintiff was placed at any such work, without any or sufficient warning or instruction, or that plaintiff was injured by or through any of such matters and things.

5. The evidence fails to show that plaintiff's in-



(Testimony of Charles H. Stone.)

juries were proximately caused by or through any defect or defects in the lightning-arrester, or in the construction or maintenance thereof.

6. The evidence fails to show that the plaintiff's injuries were proximately caused by any act  
313 or omission of the defendant in setting plaintiff at work, or directing the work at the time and place complained of, or in failing to warn him as to the dangers thereof, or in failing to instruct him as to his duties, or how to avoid the dangers thereof.

7. The evidence fails to show that plaintiff's injuries were proximately caused by the negligence alleged in the complaint, if any.

8. The evidence shows that the plaintiff's injuries were proximately caused by a separate, independent, intervening cause, for which plaintiff was alone responsible.

9. The evidence shows that the danger to  
314 which the plaintiff was exposed was incidental to his employment, and that he assumed the risk of the same, and the responsibility thereof.

10. The evidence shows that the danger to which plaintiff was exposed was an open and obvious one; that he is presumed to have known and appreciated the same, and that he [318] therefore assumed the risk thereof.

11. The evidence shows that the danger to which plaintiff was exposed was one which should have been observed and avoided by a person of plaintiff's experience, knowledge, intelligence and capacity,

(Testimony of Charles H. Stone.)

and that plaintiff therefore assumed the risk thereof.

315        12. That plaintiff was an experienced workman, and that the dangers to which he was exposed in and about the place he was set at work, were such only as were incidental to his employment, and should have been observed and avoided by him, and that he assumed the risk thereof.

13. That the plaintiff did know and appreciate the dangers to which he was exposed, and that he therefore assumed the risk thereof.

14. That the plaintiff assumed the risk of the dangers to which he was exposed in this, to wit:  
That upon completing his work of digging  
316        the holes in question, he voluntarily chose an unsafe, insecure and highly dangerous way to leave his place of work, and the enclosure surrounding the same, which way was known, or ought to have been known to him, to be dangerous, instead of a perfectly safe way, of which he fully knew.

15. That the evidence fails to show whether the plaintiff's injuries were caused by plaintiff's coming into actual contact with a live wire of the defendant, or by the electricity jumping from such live wire to plaintiff's body, while his body, or any  
317        part thereof, was within one and three-quarters or one and seven-eighths inches from such wire, or while plaintiff's body was within four and one-quarter or four and one-half inches from such live wire, or by coming into contact with or

(Testimony of Charles H. Stone.)

near the dead side of the lightning-arrester while it was carrying an overload or surge from any [319] cause, or whether there was any overload or surge, or what was the cause of such overload or surge, if any, and that, therefore, negligence of the defendant is not proved, but is merely speculative, and the causal connection between the negligence alleged, if any, and the injury, is not proved but is merely speculative.

16. That the plaintiff's injuries were proximately caused by his own contributory negligence.

17. That the plaintiff's injuries were proximately contributed to by his own negligence.

18. That the plaintiff's injuries were proximately caused or contributed to by his failure to exercise ordinary care to avoid injury to himself, by his failure to heed the warning of danger given by the fence around the lightning-arrester, and by the danger signs upon the substation door and the switch-  
319 pole, both of which were, or could have been observed by him, by the exercise of ordinary care upon his part, and by his failure to use ordinary care to keep away from the live wires in the lightning-arrester, when he knew, or ought, in the exercise of reasonable care, to have known, by the purring of the transformers, and other facts and circumstances then known to him, that said wires were alive, and carrying a high voltage; and by his voluntary action in coming into close proximity, or in contact with said live wire, when he could  
320 have departed from said enclosure by another, and perfectly safe route then known to him,



(Testimony of Charles H. Stone.)

and by his failure in other respects to exercise the care imposed on him by law in view of his age, experience, intelligence, capacity and powers of observation.

19. That the accident to the plaintiff could not have been reasonably foreseen or anticipated by the defendant.

(Argument on motion for non-suit was thereupon [320] argued by respective counsel.)

The COURT.—Gentlemen, I have not the time, and I do not think I ought to take the time to review the authorities which have been presented on  
321 this motion. While perhaps you may have thought I manifested some impatience, the argument was very interesting, and I am sorry it could not have been longer. I will indicate very briefly my reasons for denying the motion.

It is undoubtedly the rule that if there is substantial evidence supporting every material point of the plaintiff's case, I must deny the motion. It is not my duty to weigh the testimony, I am simply to determine whether or not there is testimony.

As to the defendant's negligence, there is testimony showing that the construction was  
322 dangerous, and also showing that the defendant knew it. There is also testimony which tends to show that the plaintiff assumed this risk, and also that there was contributory negligence on his part. It appears to me there is a conflict in the testimony on both these points.

A servant assumes the ordinary and obvious risks

(Testimony of Charles H. Stone.)

of his employment; and also such risks as, under all the circumstances, including his experience, knowledge and means of knowledge, he ought to have known. The same measure of knowledge and appreciation must be applied in determining the question of contributory negligence. If the plaintiff  
323 was negligent, but was not aware of the danger, it cannot be attributed to him as contributory negligence, unless under all the circumstances, he ought to have known and appreciated the danger.

The plaintiff has had considerable experience in electricity—there is no question about that; it seems [321] strange this accident occurred; but we must remember that we are looking at the event after it has occurred. In order to determine what he should have done, what was prudent under all the circumstances, and what he ought to have known and appreciated, we must place ourselves in the  
324 condition as it existed before the accident.

When plaintiff tied the strings on the dead arms of the arrester in order to ascertain the places to dig holes for the cement blocks, he was doing rather a reckless thing. If there had been a surge on the wires, or an excessive quantity of electricity, he would undoubtedly have received a shock. This indicated that he did not appreciate the dangers of the situation.

When this structure was first built, four of the employees of the company, including Mr. Halpenny, were there and this very feature of the structure

(Testimony of Charles H. Stone.)

was discussed. Now, Mr. Halpenny either  
325 did not appreciate the danger, or else he was  
simply inclined to recklessly and wantonly  
jeopardize the lives and limbs of the employees of  
the company. I cannot assume the latter alternative  
to be true. If a man of Mr. Halpenny's experience  
—he was the electrician in charge of the work—  
after his attention had been called to it, failed to ap-  
preciate the danger of the structure, there is some  
reason to believe that Mr. Sheaff did not appreciate  
the danger either.

Now, understand, I am not weighing the testimony  
but it seems to me there is testimony on both  
326 sides of the controversy as to assumption of  
risk, and also as to contributory negligence.  
For this reason the motion is denied.

Mr. CANNON.—Your Honor will allow us an  
exception?

The COURT.—Certainly.

The action of the Court in denying defendant's  
[322] motion for nonsuit is here assigned as

**Error No. 28.**

Mr. CANNON.—There was a point made on the  
argument as to the sufficiency of the plea of contrib-  
utory negligence. I would like at this time to amend  
the answer by setting up the paragraph in practi-  
cally the same language as it appears here, where  
the words "caused by" are used, repeat that,  
327 and say "were proximately contributed to by  
his own fault"; in other words, to amend the  
answer as follows:



(Testimony of Charles H. Stone.)

“As a separate answer and defense, this defendant alleges that the accident and injuries resulting therefrom to the plaintiff, if any he received, were proximately contributed to by his own fault, carelessness and negligence, in failing to exercise his natural faculties in a reasonable way to avoid injury, and in failing to conduct himself in a reasonably careful and prudent manner while engaged in and about his said employment, and in going to and from his said employment.”

The COURT.—Is there any objection?

328 Mr. GEDNEY.—We object to the amendment upon the ground that even the amendment offered would not make a plea of contributory negligence; and upon the further ground that it changes in all aspects the issues in the case. Upon the further ground that we were prepared to meet the issues as made by the pleadings at the time of the commencement of the case; and were not prepared to meet this issue.

The COURT.—In what respect are you not prepared to meet the issue of contributory negligence?

Mr. GEDNEY.—In regard to the proving,  
329 for instance, of that sign, as to whether or not it was there; and also the question as to what the plaintiff knew about electricity before this time; and in that connection we would require evidence from Millers, where he worked, as to what he did [323] there, and what he knew about electricity.

The COURT.—Didn't you introduce testimony upon that point; and didn't you deny that he knew

(Testimony of Charles H. Stone.)

anything about the dangers of that?

Mr. GEDNEY.—The complaint denies it.

The COURT.—In order to maintain your complaint, it seems to me you are bound to prove that.

I will allow the amendment. If it were  
330 injecting an entirely new defense into the case, one of which you had had no warning, it would present another phase, and an entirely different question. If you are taken unawares by this, you will have abundant opportunity to present testimony, if we have to continue the case, in which event I would want a showing as to how material your necessities were.

Mr. CANNON.—The order is made allowing the amendment?

The COURT.—The order is made.

Mr. CANNON.—Will it be necessary under  
331 the rule, to file a formal amendment to the pleadings, or will it be considered as filed, having been entered in the stenographer's minutes?

Mr. GEDNEY.—I suggest that you have the stenographer write it off, and give us a copy.

Mr. CANNON.—And we can file one.

The COURT.—And it can be pasted on the original.

**[Testimony of George L. Perrin, for Defendant.]**

Mr. GEORGE L. PERRIN, produced as a witness on behalf of the defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

I reside at Fairview, Nevada. I am an electri-

(Testimony of George L. Perrin.)

cian. I was employed at Fairview, Nevada, on the eighteenth of July, 1911. I was electrician of the Nevada Hills Mining Company. [324] On 332 the eighteenth day of July, 1911, I was in the Nevada Hills substation most of the time.

The Nevada Hills substation is about four hundred feet south of the substation of the Pacific Power Company. I know the plaintiff in this case, and I knew him on the eighteenth day of July, 1911. I saw him on the morning of the eighteenth of July, 1911, possibly eight o'clock, perhaps. I saw him at the Nevada Hills substation, in the station. I was

conversing with him in the substation itself 333 that morning not to exceed fifteen minutes.

The transformers were operating at that time. I am acquainted with the sound made by the operation of the transformers. That sound was audible on that morning. It was present at the time Mr. Sheaff was in the substation with me at that time. After conversing with Mr. Sheaff for about fifteen minutes that morning, I believe he went back to the Pacific Power substation. I saw him once during the morning at a later time. When I saw him he was digging holes. I saw him from the Nevada Hills sub. After seeing him working digging 334 holes, I did not see him later in the day until after he was burned, after the accident. I saw him about between twelve and twelve-thirty. I was at the substation at the Pacific Power Company between twelve and twelve-thirty. I went in the vicinity of the lightning-arrester when I went up to



(Testimony of George L. Perrin.)

the substation at that time. When I went up to the substation at that time, I went in the vicinity of the lightning-arrester. I went around to the north side of the lightning-arrester on the north side of  
335 the building. I just walked right in to the enclosure. The wires on the north side were down and the wires on the south side were up. I noticed that ground in the neighborhood of this point, number one.

Mr. CANNON.—Q. What did you see on the ground in that vicinity?

A. Why, it would look as though a man had been laying [325] there.

Q. Did you see the impression of anything on the ground?

A. Impression of a man's body, as it seemed to be.

Q. I wish you would come down to this  
336 model, and take a piece of chalk, and mark on the model about the place where you saw that impression on the ground. (Witness draws on model.)

Q. The figure you have drawn then, a small rectangular figure, right in here—we will mark that "X." On the south side of the building what was there, if anything, Mr. Perrin?

A. Five or six coils of wire, and a few cross-arms.

Q. And a few cross-arms? A. Yes, sir.

WITNESS.—(Continuing.) Those coils of wire and cross-arms furnished a sort of obstruction  
337 to the passage at that side of the substation to that side, the south side of the substation.

(Testimony of George L. Perrin.)

On the north side of the substation there was nothing at all; the way was clear there. I am certain I went down on the north side, and that the wires were down on the north side.

Cross-examination by Mr. GEDNEY.

There were four wires on the north side. All four wires were down. They were detached from the corner of the building. They had been taken loose by being loosened up from the staples that held them to the side of the building. The staples were not pulled. These wires were attached right to  
338 the corner of the building. From the corner of the building these wires ran to the corner of the enclosure. The enclosure was not built exactly as it is here. This corner ran out possibly eight feet—yes, it was built exactly as that is at that time. The two posts that I see made the corner posts that way. The wires did not run from the corner of the building [326] straight to the posts of the switch. There were two posts in there.  
339 There were four wires on it. I could not tell from the marks on the ground which way the man's head was lying. The imprint of the man's body was there to show me by marks whether he was lying that way or at right angles with the building. I examined the horn of that lightning-arrester. I just looked at it. I saw a little spot on the point of the live horn, being horn number one. It was a quarter-inch pipe with a coupling on it, and the edge of the coupling nearest the north side of the building

(Testimony of George L. Perrin.)

showed a small spot, perhaps—oh, twice as  
330 large as a lead pencil. It looked like a piece  
of iron or a piece of metal would look if it had  
an arc drawn from it. In my opinion, an arc had  
been drawn from that. That piece of coupling that  
was on there was about three-sixteenths of an inch  
on the outside of the pipe. If the horn were hori-  
zontal, at the point of that coupling would be three-  
sixteenths of an inch lower than the rest of the pipe.  
We had volt-meters on the wire there. They were  
not recording volt-meters. If there is a surge  
331 upon the line, there is a corresponding increase  
in the buzz of the transformers. If the voltage  
was high the transformers would give a louder noise.  
The average load carried there in voltage, as shown  
by our volt-meter on the secondary side, is one hun-  
dred and ten. When that was running at a steady  
one hundred and ten, you could hear the transform-  
ers about fifty feet away. You could hear them for  
fifty feet on the outside of the building when the  
doors were closed through the building. If there  
was a surge on the line and my volt-meter ran  
332 up to about one hundred and forty, it would  
make a louder noise. I didn't notice any  
surges on that line. It was not my business to no-  
tice that meter. If there had been a surge on the  
line, where that would have run above one hundred  
and [327] ten, I would very likely have noticed  
it. The color of the coupling was a sort of a light  
gray. It was different in color from the rest of the  
pipe. The small point that I noticed was of light



(Testimony of George L. Perrin.)

gray color, while the other was the ordinary color of  
iron rust. This pipe was rusty, all except  
333 the spot, that spot was about twice the size of  
the point of a lead pencil. The color of those  
pipes was a sort of brownish red, like rust. That  
point would not be as large as a pea, it would be  
about twice the size of a lead pencil point—about  
twice the size of the lead in a lead pencil. Those  
pipes were not of galvanized iron. I know they  
were of black iron.

**[Testimony of W. H. Block, for Defendant.]**

Mr. W. H. BLOCK, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

334 My name is W. H. Block. I reside at  
Millers, Esmeralda County, Nevada. I am  
foreman of the Desert Power and Mill Company at  
Millers, Nevada, and that Company is engaged in  
milling ores from the Tonopah Mine of the Tonopah  
Mining Company. I have been around the  
power-house of the Esmeralda Power Company a  
great deal. The machinery there has never been  
changed. In the early part of 1906 there were three  
generators, and later on there was the fourth gener-  
ator installed; that was in 1906 that was in-  
335 stalled. The electric machinery in that power-  
house consisted of three direct connected  
generators, McIntosh-Seymour Company's engines,  
each two hundred and fifty kilowatts, twenty-two

(Testimony of W. H. Block.)

hundred volts, sixty-five amperes per terminal, three-phase, three thousand alternations, twenty-five cycle, one hundred and fifty revolutions per minute. One direct connected generator, McIntosh-Seymour Company's engine; three hundred kilowatt, twenty-two hundred volts, seventy-eight and nine-tenths amperes per [328] terminal; three-phase, three thousand alternations, twenty-five cycle, one hundred and fifty revolutions per minute. A generator is a machine used for generating an electrical cur-

rent, as I would describe it. Those gener-  
336 ators in the power-house were attached to Mc-  
Intosh-Seymour Company engines. Those

were steam engines. The steam engine caused the generator to revolve and generate the electric current. Those generators were directly connected with the steam engines; the generator was on the main shaft of the engine next to the fly-wheel. The dimensions of those electric generators, I would say was about eight or ten feet in diameter, and possibly twenty-two or twenty-four inches wide, and that would include the fields and arms—the fields, of course, were the larger part. The armature of these

generators revolves. The diameter of these  
337 armatures was about six feet, I believe.

There is a bearing on one side of the generator, and that would be on the west side, which is quite close to the generator; but the bearing on the other side is clear of the fly-wheel, so it would be some distance from the generator, if that is definite enough. There was a bearing on the west side of the

(Testimony of W. H. Block.)

armature, and it was up some distance above the floor. I would say the bearing itself was perhaps five feet above the floor, but the oil pots and glass oilers were even higher, possibly six feet; in fact, they were so high above the floor there was a step built on the framework of the bearing, so a man could step up there to oil this oil-pot and the glass oilers; and in connection with that, there was a guard between the casting for the bearing and the generator, made of sheet iron, but it did not extend to the top of the generators, it was about eighteen inches or two feet of the generator armature and fields exposed above this guard. In order to oil those bearings a man would have to step up on this step that [329] was built for that purpose. Where that would bring him so far as these revolving armatures were concerned would depend on the height of the man, and on the man; it might bring just his head and shoulders—just possibly a part of his shoulder and his head, above this guard; and a taller man, it would bring more than his head and shoulders. The body of a man six feet six inches would have considerable more than his head and shoulders above this guard, I speak of. Just how much it would be hard to say, but nearly to his elbow—not right to his elbow. Assuming the position of the man in that place oiling those generators, there would be nothing but air space between that upper part of his body and this revolving armature. In 1899—fourteen years ago, I was employed for six months in an elec-



(Testimony of W. H. Block.)

trical plant in Salt Lake—Salt Lake Electrical Supply Company; and since 1899, I have worked in a number of plants, mining and mill plants, and  
341 all of them have been equipped with electrical machinery; and having charge of the plant at Millers, and having no more than one electrician, I naturally have to look after a portion of that work myself, when the electrician is gone. Well, for the past three years I have become familiar with the line of work; that is, when I say “familiar,” I don’t mean to say I am an expert, or anything like that, but I have had to become familiar enough with it, so I could take care of the ordinary currents, or ordinary trouble that would occur there. Accord-  
342 ing to my knowledge of electricity, if a man came in contact with twenty-two hundred volts against a ground such as he would come in contact there in standing on this step, the base of the engine being grounded, that it would kill a man almost instantly, or pass through his body. He certainly would if he had come in contact with the exposed fields. [330]

Cross-examination by Mr. GEDNEY.

This was a revolving armature in that generator. Any man with eyes could see it flying around there.

Naturally, any man could appreciate the danger of that. If it were standing still, there  
343 was not any danger. It wasn’t generating any current when it was standing still. The purpose of this sheet-iron guard, extending part way past the generator, was to protect a man that

(Testimony of P. W. Greenleaf.)

naturally would go in there to oil the bearings. It protected the lower part, not the upper part of the generator.

**[Testimony of P. W. Greenleaf, for Defendant.]**

Mr. P. W. GREENLEAF, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

I reside at Riverside, California. I am superintendent of construction with the Southern Sierra Power Company; electrician by occupation,  
344 working in construction work for the Southern Sierra Power Company in the southern part of California. I have been engaged in the business of electricity about eleven years. I was operator in different power-houses. I have been operator in the Municipal Plant in Indianapolis, Indiana, and the Ontario Power Company's plant at Ontario, California; and in two of the different plants of the Pacific Light and Power Company, one, the Azusa, and another one in San Antone Canyon, above the Ontario Power Plant. Then with the Nevada-California Power Company, I operated in two of their  
345 different power plants; then with the Pacific Power Company; then with the Southern Sierra Power Company. The recital of those places I have been operating power plants cover practically the eleven years I have spoken about. I have done construction work during that time. At the time with the Pacific Power Company most of

(Testimony of P. W. Greenleaf.)

my work was construction [331] work; and with the Southern Sierra Power Company, it was all construction work; I did quite a little construction work with the Pacific Light and Power Company, and also with the Ontario Power Company. About a third of that eleven years, I have been engaged in electrical construction work entirely in putting in substations and power-houses, and any electrical apparatus that would come in power-house work to be installed. I am acquainted with the contrivance known as a lightning-arrester. I have been acquainted with lightning-arresters practically eleven years. I have installed, or assisted in the installation of lightning-arresters, what is known as a resistance lightning-arrester, and the electrolytic lightning-arrester, and the horn gap lightning-arrester. The type of lightning-arrester represented in the model before me is what we call a horn gap arrester. Some of the places in which I have either installed, or assisted in installing lightning-arresters are Azusa; Nevada-California Power Company at Bishop; and with the Pacific Power Company at Bodie and at Fairview; and with the Southern Sierra Power Company at Elsinore, or not at Elsinore, at Corona; at Paris, and San Jacinto. I have seen other lightning-arresters at other plants in operation. California, Nevada and Indiana, have been the principal points where I have taken most interest in looking at them; I have noticed them when travelling through the



(Testimony of P. W. Greenleaf.)

country at various points, but the places I  
348 have taken particular notice of them would be  
Nevada, California and Indiana. I have seen  
lightning-arresters, and the positions in which they  
are placed, and the manner of their construction in  
those three states. I can give you the names of some  
of the power companies. There is the Edison Power  
Company; the Pacific Light and Power Company,  
and the P. E. Power Company, all of Los Angeles;  
and the Nevada-California Power Company and  
[332] the Southern Sierra Power Company.  
Lightning-arresters are generally placed at the most  
convenient point, so they will take care of the ap-  
paratus inside of the building that they are  
349 to protect. In most instances they have been  
on the ground, and a few places I have seen  
them located on the roofs, where they entered the  
building on top of a flat roof; where they have a flat  
place to build their structure, they would build it on  
the roof, where they go in the building. I have  
never seen any of the large horn gap arresters on a  
high pole; I have seen lower voltage arresters on the  
high poles, but never saw any high voltage  
350 arresters on high poles. It would be hard to  
tell in how many instances I have seen even a  
small lightning-arrester placed on a high pole, be-  
cause you take the low voltages, the arresters are  
very small, only about that wide to about that long  
(showing); in that instance they are always placed  
on the cross-arm right at the pole, and you find those  
in numerous places all over the country. Outside

(Testimony of P. W. Greenleaf.)

of low voltage arresters, I have seen only one high voltage arrester that I remember placed on a high pole. That was one I put in myself at the  
351 power-house at Bodie. It was an old electrolytic arrester, and we had a snowslide there, it took out the arrester, and completely demolished it, and the horns were of such a type they had to be fastened on the cross-arms; we used the same horns on the old electrolytic arrester; and it was more convenient to mount it on the pole than to put it on the ground, and where that came from the building there was approximately thirty-five feet, where that went out of the building; and to make the connections work out nicely, it was more convenient to put it up on a pole that way. A  
352 lightning-arrester should be placed as near as it could be to the building, from where the wires enter the building, so that you can do away with having any angles from your connection [333] from your line to your arrester. The difficulty about building it in a place where you have angles is on account of lightning; if you make an arc, lightning will follow an arc, and if you have a sharp angle, it is likely to jump off at the angle that way, and  
353 instead of going to the ground, follow the line on into the building to the transformers or apparatus inside of the building, and burn out the transformers, and liable to ground and put the high voltage on the whole system everywhere. It is liable to let the potential off the main line, if your transformers burn out, and the pressure on the main line is

(Testimony of P. W. Greenleaf.)

liable to go on through in your secondary line, if you  
burn out your coils in your transformers. If that  
lightning should come to the Fairview power-house  
and destroy or injure the transformers in the  
354 way I have mentioned that might carry a high  
current into the transformer of the Nevada  
Hills people and likewise burn out those transform-  
ers and carry the high voltage into the mills of the  
Nevada mine itself. The results would be very dan-  
gerous, make all the apparatus very dangerous for  
anybody to work around it. That might be a result  
of having improper angles. If this lightning-ar-  
rester at Fairview, represented in this model, were  
built down a hill on either side here, you would have  
to turn it at right angle there to get it out that way;  
every sharp corner you would make, would  
355 make it so it would not be near so effective as  
it would be right direct under the line. In my  
opinion, the lightning-arrester at Fairview, and rep-  
resented in this model, was properly placed. I would  
say it was placed at a proper elevation. It could  
not be placed any higher in that one position there,  
or it would conflict with the—the arms there are  
built on a bow that way to break the arc if the light-  
ning would go over the horn gap there; the arc  
naturally rises on a bow, and as it comes  
356 [334] up, the bows are put there, so it will  
break the arc in two, and if they were any  
higher up the arc would be liable to fly up into the  
main line. If it would fly up into the main line, it is  
hard to tell what it would do. It is liable to cause



(Testimony of P. W. Greenleaf.)

damage. The lightning would not be carried off into the ground under those circumstances.

Mr. CANNON.—Q. What is the difference between the horn gap lightning-arrester, and the other two that you have described?

A. The electrolytic lightning-arrester is an  
357 arrester that has a resistance, it is similar to the horn gap arrester; they have a horn gap in conjunction with the tank, but the tank takes the place of the concrete blocks in this, and the horns don't have to be as large as they are here, and the gap does not have to be so great; they have aluminum cones with the electro light between each cone, then these cones are submerged into a tank of oil, then the connection comes from the top and goes clear down through the cone to the ground, so it has all the resistance of these cones and the electro  
358 light between the horn gap and the ground.

WITNESS.—(Continuing.) They are very similar in principle as this horn gap; the grounding is the same. The three tanks are grounded together to the ground; and then there is—instead of having a resistance of the concrete blocks in series with the ground, they have the resistance of these aluminum cones, stacked in a tank of oil. That concrete block is supposed to increase the resistance from that horn to the ground, so that the horn gaps won't carry such a heavy current to the ground when they do discharge. The concrete blocks in this lightning-  
359 arrester operate to do the same thing that the oil tank does in the case of the electrolytic

(Testimony of P. W. Greenleaf.)

arrester. There is no practical difference in the two arresters, with the exception [335] that the concrete block does not build up resistance, it has the same resistance all the time, and this electrolight in the aluminum cones in the tank of oil, as the current goes over there, it builds up and increases the resistance until the arc is broken. The other style of lightning-arrester has a set of resistance wires with

spark gaps, and the gaps, instead of being a  
360 horn gap that way, they are brass buttons, set, we will say one-eighth of an inch—instead of having three or four inches for the gap, they divide that up into eighth inches; instead of having one gap, they break it up into smaller gaps, and put a set of buttons down, and have the resistance wire between that and the ground. In all of these lightning-arresters I have seen, there are exposed wires close to the ground. In my observation with all the Com-

panies I have worked with, as to the measures  
361 taken to protect people from those lightning-arresters, generally, there is a fence around them, and danger signs put up; and lots of instances they are at the back end of a building, where nobody but employees are supposed to go; but the out-door type is generally fenced in, with danger signs put up on them. In my observations that is the common practice with respect to the construction of lightning-arresters. In my experience, outside of this particular accident here in controversy, I do not

know of any accident happening with any  
362 lightning-arrester built near the ground, fenced in and danger signs on it. I have been

(Testimony of P. W. Greenleaf.)

at the lightning-arrester at Fairview. Before going there I went to Wonder first. At that time I was in the employ of the Pacific Power Company as Superintendent of the Power-house and its operations. I went to Wonder to look over the substations, and get a general idea of what kind of a load we were going to have at those two stations. I went to look over the substations at both Wonder and Fairview [336] and to be there when we put the juice on the line when we tested out the transformers.

363. When I went to Wonder there was about a week's work before we could put the juice on the line. I went to Wonder first. I know Mr. R. H. Halpenny. I met him at the Wonder substation. The Wonder substation is about three-quarters of a mile up from Wonder. I have the date that I took off my expense account (consults memorandum); I arrived at Wonder June 7th. I went to the substation June 7th. At the time I went there, the line from the Wonder substation out to the mill, 364 and the other line to the mine had not been constructed. I know the plaintiff in this action, Mr. Sheaff. I first met him at the Wonder substation on June 7th, the first day I got there. When I first met Mr. Sheaff he was standing behind the switch-board when I got to the station. He was taping up joints. By taping up joints, I mean that where they make splices in a wire, they tie two wires together, and after they have spliced the wires and have them soldered, they generally first put the rub-



(Testimony of P. W. Greenleaf.)

ber tape on, and then an oil lining tape, and  
365 then cover that with a friction tape. There  
were many wires in and about that switch-  
board at that time. I saw Mr. Sheaff engaged in do-  
ing that work. I was introduced to him at that time  
by Mr. Halpenny. I observed him in the doing of  
his work there at that time. He was doing his work  
in a good workmanlike way. I remained in the  
Wonder substation about five or six days. At the  
time I got there they were drying the transformers,  
and had been doing some work on them. They  
366 finished drying out the transformers, cooked  
the oil and finished up the connections for the  
primary side of the transformers for the sixty thou-  
sand volts while I was there. The oil is shipped in  
drums, and it is liable to have moisture in it, and if  
it has moisture in it, it is liable to cause us trouble  
when we put it in the transformer, and to keep from  
[337] having trouble in that way we generally put  
the oil in some large vessel, and heat it up by a set  
of resistance coils, by electricity to try and bring it  
up to ninety degrees centigrade heat, so as to  
367 get the moisture out. I don't remember ex-  
actly whether the coil was made before I got  
there, or after I got there; but I do remember it was  
connected up and put into use while I was there.  
We had sixty-six hundred volts coming into the  
transformer, and we used the transformer to step it  
down to, I think it was four hundred and forty volts,  
and then the resistance wire, we have to either put

(Testimony of P. W. Greenleaf.)

a greater amount or a less amount in to get the  
368 right temperature of heat to heat your oil, and  
it was fixed up on a frame so that the frame  
could be set down into the tank to heat the oil. I  
don't remember exactly how much voltage was used  
in the wires which were used in the resistance coils.  
I think it was four hundred and forty. I don't re-  
member exactly whether I saw the plaintiff, Mr.  
Sheaff, doing any work about connecting up that oil  
heater; it has been quite a while ago; but he was  
around there, and we all of us took turns in  
369 working on it, and I am pretty positive that  
he helped build the frame, and helped to put  
the wire on, and helped connect it up. There was  
wiring necessary to be done to prepare the trans-  
formers for the drying out process. They were  
dried out with sixty-six hundred volts; and they  
would be connected up with the current that came in  
on the line at that time; sixty-six hundred volts came  
in through an oil switch, and from the oil switch  
went to the transformers, so that the current would  
pass through the primary coils of the trans-  
370 formers, heat them up, and dry them out.  
Wiring had to be done to connect them up in  
that way. I think that wiring was done before I got  
there. It is the electric current that is put on the  
transformers that dries out the transformers, and  
one side of the [338] coils on the transformers  
are short-circuited, so it makes a heavy current  
through the transformers, and that cause heat, and  
causes them to rise in temperature until the moisture

(Testimony of P. W. Greenleaf.)

is all taken out of the transformers. The first day

I think there was three shifts used in drying  
371 the transformers; after that there was two  
shifts. Mr. Halpenny and I worked in the  
daytime, and Mr. Sheaff had a shift at night-time,  
and worked all night. During the time Mr. Sheaff  
was on shift, there was nobody assisting him. To  
my knowledge he was alone on the shift. He would  
have to turn the current on and off, take the read-  
ings of the temperatures, and watch and see that  
none of the insulation inside caught fire, or anything  
like that, from excessive heat. It is a common or  
occasional thing for insulation on the coils down

inside to catch fire. I have had experiences;  
372 when we dried the transformers out at the  
power-house we had that experience, the in-  
sulation caught fire; and at the time we dried the  
transformers out at Aurora we had some burns.  
During the shift that Mr. Sheaff was taking while  
this drying process was going on electric current was  
actually being used in the power-house, when he was  
there alone. He had charge of and use of that elec-  
tric current during his shift. That was turned on  
and off through the switch from the switch-board.

A person would certainly have to know the  
373 switches on the switch-board in order to turn  
that on and off. To take the temperature  
there we had thermometers inserted down between  
the coils of the transformers; we had to go up on the  
platform, back behind the transformers, and reach  
down and pull a thermometer up, and read it, and



(Testimony of P. W. Greenleaf.)

then put it back down between the coils again. If you took your readings without turning off the current you would come into close relation with live wires. We would turn the current off the board, go up there and read them, and then come down

374 [339] and turn the current back on. I think

I took several readings there myself without turning the current off at all. I don't know how Mr. Sheaff did it. I never saw him do it. I remained in Wonder five or six days. During the time I remained in Wonder the line to the Nevada Wonder Mine and the line to the Nevada Wonder mill were not constructed. From Wonder I went to Fairview. I don't distinctly remember about the trip from Wonder to Fairview, but I think I went over by myself about June 13th. I was at  
375 Fairview during the time of the construction of the lightning-arrester there. I was not at Wonder during the time of the construction of the lightning-arrester there.

Mr. CANNON.—Q. Did you take part in the construction of the lightning-arrester at Fairview?

A. Not a great deal—a little, yes, sir.

Q. Who else was working in the gang that was building the lightning-arrester at Fairview?

A. Mr. Halpenny, Mr. Sheaff, Mr. Campbell, Mr. Herring and myself, and Mr. Perrin was over around the place several times from his substation—at the Fairview substation.

WITNESS.—(Continuing.) I can re-  
376 member part of us doing some work and part of us doing some of the other work, but I don't

(Testimony of P. W. Greenleaf.)

remember distinctly what we all did all day long, it has been quite a while ago. I remember what Mr. Sheaff did in connection with that construction. He helped to run the ground wire; we put a copper plat down an old mining shaft, where we could get damp ground, and he helped run the ground wire over to that; and he was doing some work about the framework, I don't remember just distinctly what it was; I remember him being around while we was working

on the framework, putting the insulators in.

377 This ground wire carried to this old mine shaft was several hundred feet long. [340] This

ground wire was carried from the point of the arrester this way, over to the corner of the building, up to the corner of the building, then it was taken overhead on a pole for quite a ways, until they got the gallows frame of the shaft down there, and until they got to the water. It was carried out of here

378 through a trench. I didn't go down the shaft;

Mr. Halpenny was the one that put that down the shaft; I saw him solder the ground wire to the copper plate, and carry it over the shaft, and let it down into the water in the shaft. You would call that a dead ground, they generally speak of a ground if it is a perfect ground, if you are absolutely sure of your ground, so that you know you have got an absolute ground, they generally speak of it as a dead ground. That lightning-arrester was finished before I left there, and the fence that was around it was put up before I left. The wiring, with the excep-

379 tion of the concrete, was complete before I left. This ground that appears on here now



(Testimony of P. W. Greenleaf.)

was in. I did not place these danger signs myself. Mr. Perrin placed a danger sign on one of the poles of the switch, and on the door of the substation. I don't remember exactly what the sign said, because I have put up a good many hundred signs since then, but I do know that the word "Danger" was on it, and I think "High Voltage." If there were a surge

or an overcharge on this wire which jumped  
380 the gap, and a person should be in contact with or close to this dead wire, I don't see that anything would occur unless he was close enough to where the arc was to get just a surface burn from the arc; but if he was working on a wire that is dead-grounded, he would not receive any shock, or would not feel any effects of electricity at all, because it is grounded—a dead ground; and it makes a better

contact to the ground, being connected that  
381 way, than a man could make to the ground.

If the ground is a dead ground, [341] that would be the result, if a person came into contact with that dead wire, even though there were an overcharge. I know Mr. Campbell, Mr. Herring and Mr. Halpenny. I think I was two days and one night, or possibly two days and two nights at the Fairview substation at that time. At no time while I was working about the construction of the lightning-arrester, and in any conversation that was had among the men there, did I hear Mr. Campbell say  
382 that it was criminal negligence to construct that lightning-arrester in that way. I did not say that it was either a cheap company, or a cheap



(Testimony of P. W. Greenleaf.)

construction, or a cheap concern, or make any remark of that kind. To my memory nothing at all was said to me during that time that the lightning-arrester was being constructed, was wrong, or dangerous, or negligent, or anything of that kind. The theory upon which this lightning-arrester works is that by setting a certain distance at points above the bottom insulators there—setting the horn gaps at a certain distance, so that any lightning that would  
383 come in on the line would jump that distance, and go to the ground. The difference between lightning-arresters is a matter of difference in detail. I don't remember exactly which way the danger sign on the switch post was on; I remember there was a sign put on one of the two posts, I would not say which post it was, but if I remember rightly, it faced down towards the Nevada Hills substation. That was facing toward the south. I don't remember whether it was on the south pole or the  
384 north pole. I don't remember the exact day the power was turned on that Fairview line and the Wonder line; it was turned on about a day before I left Fairview; I remember I was up at the substation the time the power was turned on; we were in there watching the instruments on the board to see how the voltage came up when they turned the power in on the line, and we were testing out the transformers, [342] seeing that the transformers stood up to their test all right. Mr. Halpenny and myself did all that work while we were at Fairview,

(Testimony of P. W. Greenleaf.)

and I think all the rest of the boys were in the  
385 substation at the time the power was turned  
on. If you had to do the work on the arrester  
while the power was on the line, it would be safer to  
work from the ground than it would to be up on a pole.  
because a man can handle himself better working on  
the ground than he can from working off of the pole.  
If electricity were being served, say to this Fairview  
station and the Nevada Hills mill and the Nevada  
Hills Mine, the current could not be turned off  
386 at this switch for the purpose of doing any  
work, without stopping the service in the mill  
or mine. It was with the Edison Power Company  
that I saw lightning-arresters placed on the roof.  
When those lightning-arresters were placed on a flat  
roof, the tank sat right on the roof; the tanks were  
approximately from four and a half to five and a  
half feet high, and they set right on the roof, and  
the wires came in right above the tank, into a cupola  
built onto the flat roof; then they had an iron railing  
around the arrester.

387 Mr. CANNON.—How far were the live  
wires on the arrester from the roof?

A. Well, the live wires go into the top of the tank,  
or up not to exceed six feet.

WITNESS.—(Continuing.) I think there was  
danger signs placed on those, too.

Mr. CANNON.—Q. Is there any place recognized  
by people of your profession as the particular place  
where lightning-arresters must be built?

A. Well, the only exception I know of is to get

(Testimony of P. W. Greenleaf.)

them as near as you can to the apparatus that you are putting them in to protect. [343]

WITNESS.—(Continuing.) That is the  
388 rule we generally go by. There is no accepted distance from the ground at which they must be put that I know of. In all of the work that I saw the plaintiff in this action do at Wonder, the Wonder substation, and at the Fairview substation, there was nothing in the work that he did that indicated to me any incompetency or ignorance of his work. He appeared to me to be a competent man in the performance of his work. With reference to  
this process of drying out transformers; you  
389 have got to be pretty particular with the work; the transformers are pretty valuable appliances, and you have got to be mighty careful when you are drying them out, or you are liable to burn them; if you burn them that destroys the insulation between the coils, and allows them—what they generally speak of the insulation breaking down, and short-circuiting within themselves. You have got to be pretty careful about placing your transformers; there is an iron laminated core in the center, and the coils go through this core, and if you don't get your  
thermometer right down against the iron, and  
390 close to where the heat is generated, you are liable to get more heat on the coil than the thermometer would show; you have got to be very careful that you place your thermometer in the right place on these coils, to know what the temperature is. He did his work well, as far as I know. He



(Testimony of P. W. Greenleaf.)

seemed like a very bright man, I should say.

Cross-examination by Mr. CURLER.

At the present time I am working for the Southern Sierra Power Company. That is not a branch of the Pacific Power Company, or connected with it.

I am not certain as to whether the stockholders  
391      ers are the same. I think that one of the  
stockholders may be a stockholder in the Southern Sierra, but to my knowledge, I don't know. The officers are not the same. The [344] purpose of those cement blocks is to increase the resistance between the horn and the ground, and is for the purpose of holding the usual voltages on the line. It was constructed for the purpose of taking up lightning, or getting rid of lightning. Sometimes the lightning will follow the line for miles before it goes over the arrester. It is the natural function  
392      of lightning to go to the ground by the shortest course. If an ordinary bolt of lightning struck the line it would break down the insulation and go to the ground through a pole or some other way. A lightning-arrester is put in for more than one purpose. It is put in to take care of bleeding the line from induced current. Inducted electricity is a current that builds up on the line within itself. You  
393      take a line paralleling itself for a long ways, it will build up an induced current on itself. I don't know what resonance is. I never considered inducted electricity as electricity that is inducted from the clouds lying along the line at different places.

(Testimony of P. W. Greenleaf.)

Mr. CURLER.—Q. Well, when the clouds are charged with electricity, and come and lay upon the lines, or come in very close proximity to the lines, electricity is inducted from those clouds upon the line, is it not?

A. I never figured it as—the only induced current I have ever had anything to do with, was where one line parallels another line, and it collects a  
394 current from that line; that is the only induced current I have ever had any practical experience with.

Q. Is not that known in electricity as resonance?

A. It may be; I told you before I don't know.

WITNESS.—(Continuing.) I did not construct this lightning-arrester, I helped. It was not constructed under my supervision. I was superintendent of the power-houses and superintendent [345] of operations. I was superintendent of construction at the power-house. Mr. Halpenny was looking after the construction of the Fairview and Wonder substations. I went over there to be over there when they put the juice on the line, because that  
395 came under the head of operations, when the juice was put on the line. I went over there for the purpose of inspecting. It was to inspect, to see what kind of a load we were going to have on that other end, so that we could take care of it, knowing what we were going to have—take care of from the power-house. I saw the lightning-arrester at Bishop, plant four. It was constructed several years ago; it has been replaced by a later model,—improve-

(Testimony of P. W. Greenleaf.)

ments that came out since that was put in.  
396 There was a general electrolytic lightning-arrester put in the place of it. I don't know when it was invented, or when it was first used. That was the first one I ever had any experience with—the first one I ever saw. I don't think it has been in use ten or fifteen years. I can't say. The live arms of the old arrester that was there first were somewheres between three and six feet from the ground, I would not say exactly; you could easily stand on the ground and work on the live ends.  
397 If it is in an isolated place, I would say that a lightning-arrester with the live ends three to six feet from the ground would be a safe construction.

Mr. CURLER.—Q. What is the usual height in the State of California for live wires?

Mr. CANNON.—Objected to on the ground it is incompetent, irrelevant, and immaterial to any issue in this case.

The COURT.—Live wires as connected with arresters?

Mr. CURLER.—Live wires connected with arresters.

The COURT.—I will allow the question. [346]

A. I have installed three or four arresters  
398 in the last year where the live wires came within—I would not say exactly; as near as I can say from measurement, standing on the ground, from eight to ten feet, and even closer in some instances.



(Testimony of P. W. Greenleaf.)

Q. What kind of lightning-arresters were those?

A. Electrolytic.

Q. That is the lightning-arrester that has brass knobs or buttons?

A. No, sir, that is a horn gap type, with an aluminum cone resistance, instead of those concrete blocks.

Q. The aluminum cones are placed in an oil tank, are they not?      A. Yes, sir.

WITNESS.—(Continuing.) I was in Fair-  
399 view two days, and possibly two nights, and  
worked at the substation two days. I think Mr.  
Halpenny and Mr. Sheaff went over to Fairview the  
day before I did in an automobile. I don't remember  
exactly whether they left before or the same day,  
but we went within a day of each other over to the  
place. I can look and see what day it was that I  
went to Fairview. (Witness refers to book.) I ar-  
rived at Fairview June 13th. After leaving Fair-  
view, I went out on the line with Mr. Herring. Mr.  
Halpenny and Mr. Sheaff went back to Won-  
400 der the day before Mr. Herring and I went  
out on the line. I don't think I stayed at  
Fairview a day after Mr. Halpenny and Mr. Sheaff  
left. I think they left the day that I went over  
there. I don't think that they left until along in the  
afternoon some time, and I stayed there the rest of  
that day and that night, and early the next morning  
went out on the line. I would not say that that  
was the day that the lightning-arrester was finished,  
because I don't know exactly. It was finished be-

(Testimony of P. W. Greenleaf.)

fore I left. I think [347] it was the day  
401 before we left. I think possibly that Mr. Hal-  
penny and Mr. Sheaff left for Wonder on the  
same day that the structure was finished. It isn't  
a fact that Mr. Perrin built that fence. Mr. Perrin  
might have helped build the fence; but I know the  
fence was finished before I left, because I remember  
pulling the wires up to the corner with a claw-ham-  
mer, where we stapled them on to the corner of the  
building. I don't know whether Mr. Herring helped  
build it or not. I am not certain that Mr.  
402 Perrin helped build the fence; the fact of the  
business is that I don't know who helped me  
build it. I don't know whether Mr. Perrin nailed  
the wires on, but he brought them over from the  
other substation, up to our substation, and who  
tacked the signs on I would not say, but the signs  
were up in place before I went away. I think they  
were up the day before we went away. I don't know  
if there was a sign put on the switch; I said I thought  
I put it on, but I was not sure but that they  
403 put it on; but I am pretty positive that the  
sign was put on the switch, in fact, I know it.  
I am absolutely sure the sign was put on that switch,  
and that I saw it there. I walked up to the sub-  
station that morning to telephone before I started  
out over the line; and it might have been just before  
I started out over the line that I saw the signs there.  
That was the last time I ever saw the sign on the  
switch—the last time I was ever in Fairview.  
404 I don't know how long it stayed there. I  
would rather work on a lightning-arrester

(Testimony of P. W. Greenleaf.)

from the ground, if I was working on it. I would work on that lightning-arrester with the current on from the ground. I would not so work on the live wires. If I was doing any work in the vicinity of those live wires, I would be careful while working around it. I would not work on the live wires with the switch not pulled. If I was going to work on the live end, I would [348] pull the switch. It

is just as impossible to work on that voltage  
405 on a pole as it would be on the ground; you could not work on that voltage at all—hot.

If the pole were twenty or twenty-five feet high, I would not be insulated. A dry pole before any charring of the pole had taken place, would not insulate you as against a current of electricity, of fifty-six thousand volts. A dry pole will not insulate you while you are working on it. I would not work on it if it was one hundred feet high. The heat used for drying out the transformers was about ninety de-

grees centigrade. We ran that up from ninety  
406 somewhere between ninety and a hundred.

The arresters I have seen of the Poole type, besides this one, are the one at Bishop, the one at Bodie, and the one at the Jordan power-house. This one at the Jordan power-house was not exactly like this one—the same type. It was made out of pipe. There was more framework to the horn gaps, because the wire wasn't rigid enough to stand up to  
take the bow, and they put in more framework  
407 to support the wire, to get the arc to the wire, than with this one, but the principle was the



(Testimony of P. W. Greenleaf.)

same about. That was not a Pacific Power Company arrester. The one I saw at Bodie belonged to the Pacific Power Company. The one at Bishop was the one between three and six feet from the ground.

Mr. CURLER.—Q. Are not the Southern Sierra Power Company's and the Pacific Power Company's line now connected at Bishop? A. I don't know.

Q. They are either connected, or in the process of connection, are they not?

A. I think they are.

Mr. CANNON.—Object to that as immaterial.  
408

Mr. CURLER.—It has been answered, your Honor.

Mr. CANNON.—I ask that the objection precede the [349] answer.

Mr. CURLER.—It is for the purpose, if your Honor please, of showing that this witness—

The COURT.—I see the point. I will allow the answer to stand.

Mr. CANNON.—We note an exception. The objection may be considered as put in before the answer.

The COURT.—Yes.

The action of the Court in overruling defendant's objection to said question, and allowing said question to be answered, and the answer to stand is here assigned as

### **Error No. 29.**

409 WITNESS.—(Continuing.) In my opinion this is a safe construction. If a person

(Testimony of P. W. Greenleaf.)

with a shovel, or any other wooden implement, were to touch one of the live ends of the lightning-arrester when the power was turned on, he evidently would receive a shock, if the stick was wet—a conductor. If the stick was thoroughly dry and varnished he would not. I have seen some shovel handles that make a pretty good insulator, and I have seen them when lying around a dump that I would not want to touch anything with them.

Mr. CURLER.—I understand you to say  
410 that a hundred-foot pole would not insulate  
you as against that current, but a shovel  
handle would?

A. Well, it is owing to the condition of the pole, or a piece of wood. Just as I said a while ago, I have seen some pieces of wood a good conductor, and I have seen other pieces of wood that are not.

WITNESS.—(Continuing.) I would not like to work on such a twenty-foot pole, but it would probably insulate you; you are running a risk when you  
work with a pole, because a pole checks and  
411 absorbs moisture; and if it is a foreign pole,  
it [350] has been rafted down in the ocean,  
and accumulated salt in it, and salt will make a very good conductor. I have seen perfectly dry poles that have been rafted down in the ocean, covered with salt, that would not insulate you. I don't know whether one that was not covered with salt would or would not insulate you. If it were perfectly dry and well seasoned pole, it would probably insulate

(Testimony of P. W. Greenleaf.)

you, but I would not want to try it. The lightning-arrester at Bodie was a little different type  
412 from this; that was the one I stated was built out of wreckage of the electrolytic arrester; that was up in the air about fifteen feet. The live ends and the dead ends both were up about fifteen feet.

Mr. CURLER.—Q. Now, Mr. Greenleaf, if this switch were raised twice as high as it is and the lines ran down here, could not the live ends of that lightning-arrester have been built higher from the ground?

A. Well, from the contour of the ground there, it would have been pretty hard to raise the line much higher than it was.

413 Q. Well, if it were raised higher, the lightning-arrester could have been raised, could it not? A. Yes, sir..

Q. The only thing that you have in mind when you say that there might be an arc, or that the arc might fly up, was to keep the dead ends of the lightning-arrester far enough away from the high tension wires; is that right? A. Yes, sir.

Q. And if this structure were built high enough, this could be raised without any danger of the arc flying up to the live ends? A. Yes, sir.

Q. The arc is the evidence of current flowing, isn't it? A. Yes, sir. [351]

Q. When the arc becomes drawn out, the current immediately ceases flowing, doesn't it?

A. No, not until the arc breaks.

Q. Well, I say when it is drawn out to the extent



(Testimony of P. W. Greenleaf.)

of breaking, the current immediately ceases flowing?

A. As soon as it breaks it ceases flowing.

WITNESS.—(Continuing.) Amperage has nothing to do with the distance that electricity will jump from one wire to another. It has something to do with the length that the arc will draw.

The heavier your amperage is, the more current you are pulling over the line, and the further you can pull it out before the arc will

break. That thirty-three thousand volts and a tenth amperage, if the wind is blowing you could only pull it, possibly eighteen inches; if it was calm, and there wasn't any wind blowing, or anything, maybe you could pull it twice that far; it is a good deal according to the atmospheric conditions how far you could pull it. If you had that amount of voltage and ten

amperes when it is calm, I would not say how far you could draw it, because I don't know just how far. I never experimented to try

to see how far I could pull it. When I was at the Ontario power plant, I experimented on seeing how far I could draw an arc. I had about twenty thousand volts. We were drawing an arc over different substances, and some materials you could draw the arc farther than you could with the others. With our best material, I don't remember exactly how far we did draw an arc with twenty thousand volts. We didn't have any arms on the transformer we were

testing with, and I don't know what the amperage was we were using. I have seen a lightning-arrester of this type, the horn gap

(Testimony of P. W. Greenleaf.)

type, practically sitting on the ground. I have seen the same type arrester built from three to six feet from the ground, and the framework was setting on the [352] ground on two posts. It was built out of the framework, as I stated a while ago; it had to have more braces in it all the way through, because it was built of wire instead of pipe; it was built of big framework instead of small framework  
418 like that. It was outside of the transformer house. It was enclosed in a board fence about four or five feet high. That was the one at Bishop. I last saw this a little over three or four years ago. I have not been back there since. I know it isn't there now. The one at Bodie was about fifteen feet high. An arc always has a tendency to rise after it has once started. An arc will wave around most any way; you can't tell which way an arc will go any more than you can tell which way lightning will go; that is, it goes between the two points, but  
419 you can't tell just exactly which way it will go—likely to go three or four inches to one side or the other side, or up or down, but it has a gradual tendency to rise. I don't know what takes the arc up.

Redirect Examination by Mr. CANNON.

This California-Nevada Power Company is still in existence; it is the company that supplies Tonopah and Goldfield and other places down in that section. It supplies Silver Peak and Bishop; they sell part of their surplus juice to the South-  
420 ern Sierra Power Company. Before I left

(Testimony of P. W. Greenleaf.)

the Fairview substation the power was cut in. There was a switch at Lucky Boy; they closed the switch at Lucky Boy, and put the fifty-five thousand volts on all the way through the line, and then started the machines up at the power-house, and then gradually brought them up until we had the normal voltage on the line. Prior to that they had sixty-six hundred volts on there. That was the first time the high voltage was turned into the Fairview substation. That was after the lightning-arrester was completed. The high voltage had never been turned into [353] that substation at all until after this lightning-arrester was constructed. I know the purring sound made by transformers when current is going through them. I heard that purring sound at Fairview on the day that the power was cut in. It would be rather hard to answer how far one could hear that purring sound in the daytime; I should say safely fifty feet from the transformers, you ought to hear it plainly. With reference to the rear wall of the substation building, I think the transformers were right up  
422 against the wall, back this way, back against the westerly wall. Some transformers are a little noisier than others; they will make an audible sound; we have got one station where there is three three hundred kilowatt transformers, and you can hear it a block and a half.

Recross-examination by Mr. CURLER.

The sound made by transformers is not exactly uniform, some transformers will make a sound that



(Testimony of P. W. Greenleaf.)

will carry a great deal farther than other transformers. When I first met Mr. Sheaff he was standing behind a switch-board at Wonder; I think the juice was on at Wonder at that time. There  
423 were three switch-boards there. I forget whether there was three or four panels to it; it was on one of the panels, but I don't know whether it was on the panel he was working on or not. He was tapeing wire; that was insulated wire, and the tapeing process was to complete and perfect the insulation where the joints were made.

**[Testimony of Clifton Herring, for Defendant.]**

Mr. CLIFTON HERRING, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

Direct examination by Mr. CANNON.

My name is C. Herring. I am the same witness who was called as a witness in this case for  
424 the plaintiff. I know the plaintiff, Mr. Sheaff, and became acquainted with him under [354] the circumstances I have stated and worked with him at the times I have detailed. When I was working for the Pacific Power Company, or the Hydro-Electric Company, I was receiving four dollars a day. When I was inspecting the line, or patrolling the line and inspecting it in the month of June, and looking for difficulties and trouble along the line,  
I was then receiving four dollars a day. The  
425 duties of an electrician's helper are to help an electrician—hand him materials, tools,

(Testimony of Clifton Herring.)

whatever he may need. The duties of an electrician are to do most any kind of wiring; he usually has to do the wiring of motors and transformers, station wiring, electric light wiring, putting in insulators, and working on live and dead wires. Although some electricians, or some who work at the trade and call themselves electricians at any rate, I have known, don't work on hot wires. The duties of the electrician, really include practically all kinds of work in and about electrical apparatus. All kinds of work are not dangerous. It depends on  
426 the electrician, on the man himself to some extent. Any kind of electrical work, about wiring, about electrical apparatus, about transformers, about substations, about lightning-arresters, or anything of that kind, comes under an electrician's work. The duties of the electrician's helper are to help the electrician in all that kind of work; all that kind of work the electrician is doing.

Cross-examination by Mr. GEDNEY.

It is my understanding that Mr. Edison is an electrician.

**[Testimony of Mr. R. H. Halpenny, for Defendant.]**

Mr. R. H. HALPENNY, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

427 Direct examination by Mr. CANNON.

I reside in Riverside. I am Assistant Engineer Southern Sierra Power Company. I have been engaged with that concern [355] for about

(Testimony of R. H. Halpenny.)

a year and a half. I have been engaged in electrical work something like seven years. I had a common school education and a high school education. After I graduated from high school in Corydon, Iowa, I entered the Iowa State College of Engineering. I remained there one term, approximately four months, and then I left school on account of sickness.

I didn't take up my studies at the beginning  
428 of the next semester but stayed out for two years. I then took up my course at the point I left off and completed it in 1908. That was the Iowa State College of Engineering. During the time I was out of that college and before I went back, I was with a local telephone company in my home town for a year in charge of the exchange and lines, carrying on construction work and repair work, or anything incidental to operating an exchange of that character. When I went back to college

429 I remained there three and a half years or seven semesters—I completed the course,—the ordinary four years college course and graduated in 1908. After I graduated, I was almost a year with the Ames Engineering Company, first as an electrician, and the latter part of that time as testing—testing man, in charge of the testing department; I left that company to take up work with the Nevada-California Power Company in the spring of 1909, and took a position with them as superintendent of transmission; later, in 1910, in September,

430 I went with the Pacific Power Company and was electrician and erecting engineer, and



(Testimony of R. H. Halpenny.)

worked for that company approximately for about a year altogether; the year was broken into by one or two short periods, which time I was in the office of Manifold & Poole, engineers in Los Angeles; and upon leaving the employ of the Pacific Power Company, I went back with Manifold & Poole, remaining with them until I took up the work that I now have with the Southern Sierras Power Company.

[356] My work with the Southern Sierras  
431 Power Company is partly what is known as  
inside, and partly outside, that is, I have some  
field work and some office work; I would say I was in  
the field almost half the time; the office work consists of laying out stations, lines—in fact, all kinds of electrical equipment that we have to do with, and making calculations pertaining to them. The field work consists in going out, inspecting and directing the installation, according to the plans that are furnished by the office. During these seven years I have been devoting myself to electricity in its various phases and uses practically all of the time. As  
432 electrician and erecting engineer for the Pacific Power Company, I installed apparatus  
in four substations; the switch-board transformers, and other equipment in the present power plant. I did very little of the construction work on lines. I had occasion to do some where it was necessary—short pieces of line—necessary to make a connection. The substations that I installed were at Bodie, Aurora, Fairview and Wonder. Bodie was to serve the local territory, including the mines in

(Testimony of R. H. Halpenny.)

that vicinity and the town of Bodie. Aurora was pretty near primarily to serve the mines, that  
433 is, within a mile or so of the station, and any other mining properties that might require power; in fact, all these substations were put in with the idea of delivering a mining load—what is known as a mining load of electricity. The length of the line from Bodie to Wonder and Fairview is approximately one hundred and twenty-five miles from the plant at Jordan to Wonder. The other line to Aurora from the plant is in the neighborhood of thirty miles. The current for instance on this particular line from Fairview to Wonder was sent clean through a distance of one hundred and twenty-  
434 five miles. From the standpoint of economy, it was essential that a high voltage should be used for that distance. I think I went to Wonder about the first of May; I [357] think the twenty-eighth of April I went from Fallon to Fairview; then went to Wonder for a day and back to Fairview. Well, my first work upon going up there was in Fallon, about forty-five miles from Fairview, I guess; that work was unloading a crate of transformers, which were at the station platform at that time. The transformers were to be used at the  
435 Wonder and Fairview stations; that was the nearest railway point. At that time there was line construction going on under the superintendence of Mr. George Johnson. I was sent up there to put in the two stations. I was sent up there to unload those transformers, to see that they

(Testimony of R. H. Halpenny.)

were transported to the points at which they were to be used, and to install them at the two stations; and when I arrived there there was no station, no building there, it was just in process of erection.

Neither one of these stations were built at  
436 that time. I was not able to go to work at either installation at that time for about in the neighborhood of ten days. After checking up the material in the two places and reporting any shortages that existed, I assisted Mr. Johnson. During the time I was assisting Mr. Johnson shortly after my arrival at Fairview, I saw Mr. Sheaff for the first time. I believe the first time I saw Mr. Sheaff was on the street of Fairview. I was intro-

duced to him at that time by Mr. George John-  
437 son. In the next few days, within a day or so from that time, I *first with him*. They were finishing the digging of the holes at the end of this short line next the station and I saw him engaged in that work, at blasting, I think. They were putting a few shots in the different holes; the ground is of such a character there they had to use powder to loosen up the earth. This was a little branch from what is known as "Old Town"—the old town of Fairview, about two and a half miles down the gulch. After the holes were completed they  
438 started to raising the poles. I saw him assisting in raising the poles—piking, that is, using a pike [358] pole in raising the poles; it is necessary to use pike poles in raising heavy poles; after the pole is up a certain distance the one end is



(Testimony of R. H. Halpenny.)

raised, the leverage—or the pole itself, its own weight is so powerful, that pikes must be used to push it up the rest of the way. After the walls were raised, I saw him tamping, shovelling in; in fact, any of the jobs that were necessary in completing  
439 the line. During that period they were stringing wires. He was in the gang at the time the wires were being strung. The first time that he came under me, or was employed under my direction was about the fourteenth of May. From the fourteenth of May, 1911, up to the time of his accident, he was under me as one of the employees subject to my directions. When he came under me the first thing we did when the building was turned over to us, was to begin to move the apparatus inside of the building and uncrate it. He  
440 assisted me in that work. As a man of intelligence and capacity, Mr. Sheaff was above the average. After this moving of these supplies, the next work I set him at was the erection of the switch-board in the building within this Fairview station. The first thing was the setting up of the board itself, fastening it to the wall, assembling at various parts, putting certain pieces of the apparatus together such as—well, what was most convenient at the time; I think that the switches were mounted at that time—the oil switches back of the  
441 board were mounted at that time, all three of them—there were three panel boards, a receiving panel, and two feeder panels, an oil switch being provided for each one; these switches were

(Testimony of R. H. Halpenny.)

mounted on the wall, and operated by levers, or through levers, by the handle at the front of the board, on the front of the marble. Mr. Sheaff assisted in fastening the switches, filling the tanks with oil, placing the tanks in position, fastening the bell crank levers, and connecting the rods in place, bolting the switch-board panels [359] together;

fastening the switch to the wall, and placing  
442 insulators and pins upon the pipes which  
braced the board; and that was about all that  
was done on the board at that time. The next employment at which Mr. Sheaff was engaged under me was the installation of what are known as disconnecting switches inside of the station—at Fairview. All this work was done on this Fairview station. He assisted in fastening these switches to the wall, their position being immediately under the entrance brackets. At that time we had not run

any wires in the station, and did not until we  
443 had the transformers in position for the drying out. After the installation of the disconnecting switches, the next thing done by Mr. Sheaff and myself was the placing of the transformers, uncrating the cores, and assembling of the various parts of each transformer. Mr. Sheaff assisted in all of that work. The connections were then made for the beginning of the drying-out process. We made connections through the entrance brackets of the station with the main line, and used sixty-six hundred volts for the drying out; then each transformer—or the three transformers, were con-

(Testimony of R. H. Halpenny.)

nected together, and the wires were run from the  
inside entrance bracket insulator; or I should  
444 say, the inside entrance insulator, down to the  
switch-board, and were taken through the  
current transformer, through the oil switch, and  
then to the transformers. All those operations re-  
quire wiring. Mr. Sheaff placed insulators—we had  
to put in some temporary wiring for that—wooden  
arms on the inside of the building, and placed pins  
and insulators on them; he assisted in the placing  
of those, and in the stretching of the wires from the  
switch, from one switch to the other, placing the  
transformer, and connecting up with the various  
transformers. That work practically com-  
445 pleted the preparation up to the drying out of  
the transformers. Just as soon as we were  
[360] able to get this work started, we put the cur-  
rent on the transformers. Mr. Sheaff was present  
when I put the current on the transformers. That  
current was put on the transformers by the closing  
of the oil switch on the switch-board. The oil  
switch was one of the three I spoke of as being  
mounted on the wall back of the switch-board.  
After the current was put into the transformers  
it was routine after that for three or  
446 four days, that is, we watched the tempera-  
ture closely, and did various jobs that could  
be done during the period between readings; we took  
readings at regular intervals, half hourly readings,  
after the first few hours, a little more frequently  
for the first hour or so. Those were thermometer



(Testimony of R. H. Halpenny.)

readings indicating the temperature of the windings and insulation of the transformers. Mr. Sheaff was the only assistant I had in that work of drying out of the transformers. It was necessary to keep the —what is known as the heat on for twenty-four hours or we would lose the results of the  
447 previous period of heating, because the cooling would take place during the lapse. I took the day shift and Mr. Sheaff took the night shift. Mr. Sheaff was alone and in charge of that work during his night shift. He was left in charge of the station during the night. The drying-out process continued between three and four days, as I remember now; it all depended on how fast the temperature of the transformers came up to the point we desired to raise it to. Just as soon as we were through with the transformer heating we commenced heating oil by the use of resistance immersed  
448 in the oil, the oil taking up the heat from the resistance. In that operation we used two hundred and twenty volts on the resistance, sixty-six hundred volts on the high side of the transformer, used in this process. I reduced this voltage for two reasons, one was it was safer to handle at that voltage, and another was it would be difficult to build a resistance [361] that would operate at sixty-six hundred volts, without making it too bulky and unwieldy. My recollection is that I had Mr. Sheaff build the wooden frame; this resistance con-  
449 sisted of a series of coils that are supported on a wooden frame or rack; this rack in turn

(Testimony of R. H. Halpenny.)

was supported on some porcelain knobs, to keep from coming in contact—the wires that were on it—from coming in contact with the metal tank in which it was placed; these coils were made by winding galvanized iron wire on pipe, simply to give it the form of a helix, and then stretch it slightly to separate the turns, fastened at either end on knobs on this wooden rack, and connected in series. The

machinery and the transformers were installed in the Wonder station after the installation in the Fairview substation. The

work was carried on in a similar manner in the two substations. In the two substations there was practically the same equipment and arrangement with the exception in the Wonder station we had the transformer bank of the Mining Company, as well as our own transformers at that time. By “transformer bank” I mean a bank of transformers is two or more transformers working together. In the Wonder substation besides the transformers that belonged to the Pacific Power Company, there

were also the transformers that belonged to the Nevada Wonder Mine. They were in the same building, the opposite side of the building from the switch-board. Each bank was placed in a line; these lines were at right angles to one another, and I imagine—that the junction of the two lines would be considered, the line intersecting the transformers, at that end would be probably four feet.

(Testimony of R. H. Halpenny.)

Mr. CANNON.—Q. Then the transformers belonging to the Pacific Power Company were in a line, and the transformers belonging to the Nevada Wonder were in another line, at right angles with the first line? [362]

A. Yes, the Pacific Power Company's  
452 transformer line paralleled this entrance or gable end, at which the wires entered the building; and the Mining Company's transformers parallel the side that would correspond with this left-hand side of the model.

WITNESS.—(Continuing.) Mr. Sheaff and myself installed those transformers. So that in addition to the work done in installing the transformers in the Fairview station, we installed practically the same transformers in the Wonder station, and another set of transformers for the Nevada Wonder Mining Company. At the Wonder substation Mr. Campbell might have been down there. I don't believe, though—no, his work was all done in  
453 the mill. He might have assisted in shoving the transformers around from place to place, the Mining Company's bank, because they were rather heavy, and we usually needed an extra man, for that; but the actual installation, connecting up, Mr. Sheaff and I had no other assistance. In the drying-out process we had no assistance there except Mr. Greenleaf's. Mr. Greenleaf was there taking shift with Mr. Sheaff and me during the drying-out process. He was there for about six days; I think he came on the 7th of June, and left on the



(Testimony of R. H. Halpenny.)

13th; that was during the drying-out period  
454 only. The work done by Mr. Sheaff at the

Wonder station was very much the same as the work done in the Fairview station. The work was carried on along the same line in the two stations. The preliminary installation of the Wonder substation, that is, the work that could be done up to a certain point, at which the transformer drying had to commence, and the transformer drying, took approximately two weeks. My only assistant during all of that time, except the time Mr. Greenleaf was

there, was Mr. Sheaff. I placed Mr. Sheaff  
455 in charge and gave Mr. Sheaff directions with respect to the completing [363] of that line to the mill, to the Nevada Wonder Mill and the Nevada Wonder Mine.

Mr. CANNON.—Q. State whether or not you placed Mr. Sheaff in charge of any construction work there, near or at the Wonder substation.

Mr. GEDNEY.—We object on the ground it is leading.

Mr. CURLER.—And calling for the conclusion of the witness, and not a statement of fact.

The COURT.—The objection seems to be good.

Mr. CANNON.—We note an exception.

The action of the Court in sustaining said  
456 objection to said question is here assigned as

**Error No. 30.**

A. I instructed Mr. Sheaff to dig the holes for two short lines; frame the poles, raise the poles, string the wire on the same; tie the wire in; in fact,

(Testimony of R. H. Halpenny.)

to complete each line to such a point that it could be used for transmission of power.

WITNESS.—(Continuing.) Mr. Sheaff did that work in a perfectly satisfactory manner. His work in and about the substation which I have described was done in a very satisfactory manner. The lightning-arrester at Fairview was built first.

457 That was built on the 13th of June, 1911. I

was present all of the time during the construction of that arrester, and was in charge of it.

Mr. Greenleaf, Mr. Sheaff, Mr. Campbell and Mr. Herring, and the carpenter, Mr. Granquist, assisted

me. The first piece of work that was done in connection with the building of the lightning-arrester was the framing of the timbers. The carpenter did that. The next thing done was the bending of the pipes which were to serve as horns. My recollection

is that I bent the first pipe myself, or assisted

458 in the bending of it, in order to get the proper

curvature of [364] that pipe, it was used

as a templet—I don't know who bent the rest. I am not sure which of the people working around there bent the rest of the pipe. There were five other pipes to bend in accordance with the model I made.

The pipes were next tied in on the insulators. I remember tying in some of them myself, and I am not

sure just which of the men tied in the rest of

459 them; it took two to work on any one of the

pipes at the time it was being tied in, one to

hold it and the other to tie it in. My recollection is that Mr. Sheaff assisted in the setting of the posts

(Testimony of R. H. Halpenny.)

and the fastening together of the support there below, or on the cross arms. My memory is not so good on that point, but there was no other work going on at the time, except the construction of this arrester. There was nothing for that gang of men, or any of them to work on at that time except the construction of that lightning-arrester. It only remained to build the arrester; afterwards the station could be cut in. During the construction of that lightning-arrester, Mr. Sheaff might before the close of the day have been engaged in piling material at the south side, the side nearest the mill or the station; there was some loose material out there that needed to be collected and piled up in neat shape. That material was construction material left from the building of the line. Outside of the piling of that material, he did not, to my recollection, do anything about there except to assist in the construction of this lightning-arrester. I can't at this time state in detail the various things he did, in the latter part of the day. The running of the ground wire had been completed by noon of that day. The first work was to put this ground in and Mr. Sheaff assisted in that; that was commenced on the 12th. Mr. Sheaff, Mr. Campbell, Mr. Herring, and myself did that work. It consisted in the stringing of the line from the corner of this building, [365] this northwest corner of the building to the gallows frame of the—I forget the name of the shaft, a shaft near by, an old mining shaft. That shaft was something like about



(Testimony of R. H. Halpenny.)

seven hundred feet away. We placed one pole at an intermediate point at the corner of this building and the gallows frame. I think Mr. Herring, Mr. Sheaff, and possibly myself, put in that pole. We were all engaged in stringing the wire. I myself put the ground down into the well and into the water.

Mr. CANNON.—Q. How was the wire carried from the dead end of the lightning-arrester  
463 itself, out to the place where it was carried on the pole?

A. The dead ends were tied together; I mean by that the three dead horns were tied together with wire.

Q. As they appear on the model?

A. Yes, a wire dropped directly down from one of the horns, or from an intermediate point, between one of the horns, to a trench taken over underground in a trench a few inches below the surface of the ground, from the corner of the building up to the corner of the building, where it was tied on a wire that entered the gallows frame.

464 WITNESS.—(Continuing.) I don't recall who dug that trench and laid that wire in the trench. The lightning-arrester at Wonder was built a week or ten days later than the lightning-arrester at Fairview. Mr. Sheaff and myself were in the gang building that lightning-arrester. Mr. Sheaff and I built that lightning-arrester with the exception of some assistance at the time the pole was raised. At the time the pole was raised, and outside of that there was nobody else besides myself and Mr. Sheaff

(Testimony of R. H. Halpenny.)

that I remember working on the Wonder lightning-arrester. We used the same size pipes at the  
465 Wonder lightning-arrester for the horns.

Mr. Sheaff and myself bent them and put them in and wired them up. It took [366] the two of us something more than a day to build that lightning-arrester. With that lightning-arrester for a ground we dug a hole in the ditch, carrying the slimes from the mill, in wash ground, and placed a copper plate similar to the one used at the Fairview station, to which was soldered the ground wire, which, in turn, ran from the plate to the arrester. Mr.

466 Sheaff assisted me in laying that wire and placing that wire in the moist ground. We were alone at the work. After the ground was put in at the Wonder lightning-arrester, the nature of the ground was not changed. Subsequently there were concrete blocks out for the wires leading to the ground from the dead horns of the arrester. Those concrete blocks on the Wonder lightning-arrester were placed on the ground, directly under the dead horns. The office of them was to limit the dynamic flow, or dynamic current following the start-

ing of an arc by static disturbance, or any  
467 other cause. The concrete block would offer a certain resistance, depending on the cross-section and length of the block, and that in turn would limit the flow of current in the circuit at that time. Each dead horn had its own block, connected by a wire fastened from the dead horn, running from the dead horn to the clamp at the top of the concrete



(Testimony of R. H. Halpenny.)

block, the block being set a certain distance in the earth, just sufficient to keep it from falling over; another clamp was fastened at the bottom of the block for making contact, to this clamp was  
468 attached the ground wire. Then all three of these concrete blocks were attached to the ground wire originally laid. A current going through the dead end would have to follow the path of the wire, the concrete block, and the ground wire, to the ground, or at some point along that, at which it could go to the ground. The work of placing these concrete blocks, setting them and connecting them up was done two or three weeks before the day of this accident. [367] Mr. Sheaff did the most of the work, the actual setting of the blocks and placing the clamps, and I assisted in making the con-  
469 nections to them. Mr. Sheaff and myself were the only ones working at this work, and I assisted Mr. Sheaff, and Mr. Sheaff assisted me at that time. The actual work on the arrester at Fairview did not take more than about three hours. The rest of the time was put in in the putting in of this ground wire already referred to. I arrived there about noon on the 12th, and commenced work immediately after lunch, and we had completed all of that work by about four-thirty, the evening of  
470 the 13th of June. I left the place sometime that same evening, at nine or ten o'clock with Mr. Sheaff. When we left the station the fence had not been built. I made arrangements with Mr. Greenleaf to see to the building of the fence the fol-



(Testimony of R. H. Halpenny.)

lowing day. When I went back to Wonder Mr. Sheaff returned with me. At that time the lightning-arrester at Fairview was completed. Before Mr. Sheaff and I went to Wonder that afternoon at five o'clock we cut the station in. "Cutting in the sta-

tion" is a term that is used at the time that  
471 any new piece of apparatus is put on the line,  
or connected with the line; and consisted, as  
we handled it there, in having the power-house  
back off the line, or drop, or load—pull off or connect  
the line through at Lucky Boy; that is, fifty  
thousand volts had not been transmitted past that  
station at the time—past Lucky Boy—the switch  
was closed in there. Lucky Boy was a sub and switch  
station. Before that time fifty-five thousand volts  
had not been put into this substation at all. It had

not been that far along the line. Before that  
472 time, sixty-six hundred volts had been put into  
that station. When Mr. Sheaff and I were  
working in that substation, we were working with  
sixty-six hundred and two hundred and twenty volts.  
That station was cut in about five o'clock. [368]  
I communicated with the power-house, so far as tak-  
ing off the load and making the arrangements for  
turning on the fifty-five thousand volts by telephone.  
We were all there when the fifty-five thousand volts  
were turned into that substation for the first time.

Mr. Sheaff was there. The object of turning  
473 in the fifty-five thousand volts at that time  
was the putting of the transformers in service.  
The object in turning on the power was to put full

(Testimony of R. H. Halpenny.)

voltage on that end of the line. Inspection was made after the power was turned on. Nothing occurred in the way of trouble. While Mr. Sheaff and I were working there together on the station, up to the 13th of June, the voltage carried there over the line was sixty-six hundred, and lower voltages. The high

474 voltage was turned in to the Wonder station about the 18th of June, just a few days after this station was put in service. Mr. Sheaff and myself were the only ones that I remember were there. That was the first time that fifty-five thousand volts had been turned into the Wonder station. Yes, that was the first time.

Mr. CANNON.—Q. What were all of the parties doing at the Fairview station when the power was cut in for the first time?

A. Well, the work had practically been done; the arrester had been completed; at the time the voltage started to rise, that is, the power is built up  
475 on the line, raised the voltage, we were all in or about the front doors of the station, listening, and watching the switch-board.

Q. For what purpose?

A. At a time like that it is rather a critical time; one is more or less nervous; something may happen the first time an apparatus is tried out, so we are naturally very anxious to note the rise in voltage, which we could get from the volt-meter on the switch-board, and to tell from the sound that [369] nothing had happened to injure or damage the transformers.

(Testimony of R. H. Halpenny.)

Q. Had the lightning-arrester been completed at that time?

476 A. Yes, it was completed.

Q. Was there any other work for the men to do there except to watch the event of turning in that power?

A. That is all I remember there was to do at that time.

Q. Was Mr. Sheaff with the people who were watching that operation? A. I believe so.

Q. And about the Wonder substation, would the same critical conditions exist there?

A. Just the same.

Q. And you say no one was with you there excepting Mr. Sheaff, at that time?

A. Not that I remember.

Q. Was he with you when that high power  
477 was turned into the Wonder substation for the first time? A. Yes.

WITNESS.—(Continuing.) After the time I have spoken of, I next went to the Fairview substation about the nineteenth of July; the next day after the accident to Mr. Sheaff. I was there at the point where the accident happened. The condition I found there at that time, as compared when I left the previous day, was that the holes had been dug underneath the dead horns; the holes for the setting of blocks. The fence, when I left before, was not there; I found that fence had been built. I found a  
478 fence there on the nineteenth. On the nineteenth there was a danger sign on the front



(Testimony of R. H. Halpenny.)  
door of the station, and as I remember it, one on the switch, fastened to the post. My recollection is that these signs said "Danger, high voltage, keep out," or "keep away"; then had the initials of the Nevada Hills Mining Company. They were all made from the same tracing; they were blue-print signs, made in the draughting office. It was the ordinary blue-print with [370] white letters. I would say those letters were very plain. I saw them plainly.

479 I don't remember whether the letters were of uniform size or not, but my recollection is that some of the words, either "Danger" or "High voltage"—I believe the word "Danger" was larger than the rest; and as I remember it, the letters would be some two and a half inches high. To the best of my memory, I would say that size of the whole sign was twelve by fifteen, or twelve by eighteen inches. During the times that Mr. Sheaff and I were working together in the Fairview substation, and in the

Wonder substation, I warned him several  
480 times at each of the stations. As I remember it, I would say, "Remember that wire is there—keep away from that wire, it is hot." I remember on one occasion after giving him a warning, saying to him I hoped that he did not think that I didn't give him credit for average intelligence, from my repeatedly warning him, but I always considered it safer to warn a man too often than not enough. In answer to that statement he said he took it in good part, and understood the motive, or words to that

(Testimony of R. H. Halpenny.)

effect. I gave Mr. Sheaff directions and in-  
481 structions with reference to digging the holes  
and putting in the concrete blocks at the Fair-  
view substation. I gave him instructions to go to  
Fairview, taking the blocks with him, as I remember  
it now, to get some clamps from the blacksmith of  
the Mining Company, these clamps having been or-  
dered by phone a few days previous to this; to dig  
the holes for the blocks, put the clamps on, set the  
blocks in place, and to not make any changes in the  
wire, or connection, until I came over the following  
day. In response to those instructions, Mr.  
482 Sheaff left in the morning of the 18th to carry  
them out. That was the next day after I  
gave the instructions. During the morning of the  
18th of July, I was talking with Mr. Sheaff on the  
telephone at about eighty-thirty. [371] As I rec-  
ollect it, he called me to tell me that the clamps were  
not completed, but would be a short time afterward.  
I told him all right, to go ahead, to go as far as he  
could with the other work, and get the clamps  
483 later. I next saw Mr. Sheaff after his leav-  
ing for Wonder on the morning of the accident  
at Fallon, about the second or third day after the  
accident. In passing through Fallon, I called at the  
Grand Hotel where he was staying. When the acci-  
dent happened, the work that Mr. Sheaff and I were  
doing there was within a day of completion. I went  
to the hotel where Mr. Sheaff was at that time, I  
think on the 21st of July. I saw Mr. Sheaff on that

(Testimony of R. H. Halpenny.)

occasion. We talked for a few minutes. We  
484 did not dwell on the accident itself very much.

My recollection is that I asked him how he  
ever came to get into that. As I remember it now,  
he said he didn't know. During my experience as  
an electrician, I have observed and seen a great many  
lightning-arresters. I am perhaps not acquainted  
with all of the different types of lightning-arresters.  
I would say I know of over a dozen or so different  
types of lightning-arresters. The arresters are built  
for all voltage, for use on circuits of three hundred  
and ten volts, or even the telephone circuits,  
485 up to the highest voltage in commercial use.

While I was a student, or after I had been  
out one term in the Iowa State College, I had to do  
with reference to telephone-arresters. At the time  
of this accident, the principal kinds of high voltage  
lightning-arresters in use were just the general  
classes. There is the electrolytic, which is a distinct  
class, then there is the graded resistance type, and  
the horn gap; the multi-gap—I could name several  
others, giving them the names that they are com-  
monly known by, but they all depend very much on  
the same principle. They are all constructed  
486 with two—they must serve two functions;  
one, to take any excessive potential [372]  
from the line—serve as a sort of a safety-valve; and  
the other is to successfully interrupt the flow of  
dynamic current, once the arc is established. A  
surge, or an overcharge may be occasioned by any  
one of several causes; it may be due to a direct stroke



(Testimony of R. H. Halpenny.)

of lightning, induced, what is known as an induced disturbance, caused by lightning somewhere in the neighborhood of the line; it may be due to switching operations on the line, suddenly breaking or opening

the load; it may be due to trouble on the  
487 line, such as arcing, what are known as arcing grounds; shorts, and so forth. As to reso-

nance, that is a condition that you don't find so very much; theoretically, it is possible; practically, to a certain extent, but not in commercial lines, you don't find that condition existing to a very great extent, as I have said. In a limited way, you might find the condition of resonance, but it would only have a limited effect to what it would have if there

was a perfect condition for resonance to occur.

488 I don't consider that there is any possibility of the resonance being sufficient, or otherwise, on that line, to increase the voltage to the amount necessary to jump the four and a quarter inch gap.

At the time of the accident, there was no switching that would remove that possibility; there was no trouble, at least no trouble that we know of, no load to be thrown off that was of sufficient magnitude to cause a surge, a surge of such intensity that it would go over a gap of that length. I was at the Wonder

station up to about twelve o'clock on the  
489 morning of the accident. Any surge on the

line from any cause would very likely be indicated in the Wonder station. We had a volt-meter connected with the line in the Wonder station that would indicate any surge occurring at that time. I

(Testimony of R. H. Halpenny.)

didn't observe any indications of any surge that morning. So far as I observed, there were no indications of any lightning at [373] that time at that end of the line. My recollection is it was a perfect June day. There were no static disturbances of any kind that day that I noticed. I considered this lightning-arrester at Fairview very well suited for that location, with the conditions existing there, that existed at the time it was built. At the time of, and before, this accident, where an arrester was low enough, if there was any danger of people moving in and about, or near to the arrester, the arrester would be fenced in; where the arrester was sufficiently high to prevent this possibility, no fence was needed. If the lightning-arrester was high enough, no danger sign would necessarily be used; that is a thing that depends altogether on the practice of the company; it may not be put there; in fact, nearly all high tension transmission lines have danger signs on the poles. It could be considered common practice to place danger signs around high-tension wires and electric apparatus at that time. I very often heard the purr of the transformers while they were working. I have heard the purr of the transformers at the Wonder substation, and the Fairview substation. I have been in the Wonder substation with Mr. Sheaff while the transformers were working and purring. That one in the Wonder substation could be heard out of the building for some little distance. I was in the Fairview

(Testimony of R. H. Halpenny.)

substation with Mr. Sheaff while the transformers were purring on the night that the station was cut in. The purr of those transformers could be heard outside of the building; how far would depend on the kind of a day. I am sure you could hear them on a still day for a distance of fifty feet from the building. All joints in connection with those two substations were soldered. Mr. Sheaff and myself did it all. Mr. Sheaff did at least half of  
493 it by himself. A great many splices were made. I would say fifty per cent of that kind of work Mr. Sheaff did. All [374] those joints were taped. Mr. Sheaff did fifty or perhaps sixty per cent of that kind of work. Tapeing serves a double purpose in a job of that nature; first, to protect, to bring the insulation of the joint up to the same point as the insulation of the wire; and second, the appearance. Mr. Sheaff, while under me, did work in placing insulators. We placed insulators in the station and on the switch-board. Mr.  
494 Sheaff did at least half of it. Mr. Sheaff did some of the work of tying in the wires on the insulators. He did at least half of the work. Any ordinary insulation of this wire and live arm of the lightning-arrester would be of no avail. Any ordinary insulation that you could place on that would be of no value as a protective insulation. In a general way a lineman must work on or about electric lines. They may be either dead or live wires up to a certain voltage. The practice of various com-



(Testimony of R. H. Halpenny.)

panies differs considerably in regard to the  
495 voltage at which linemen work. Some places  
in the west lines are worked on at voltages  
up to and including seventeen thousand. Twenty-two  
hundred is about the limit in common practice. Up  
to twenty-two hundred volts, in dry weather, they  
are commonly worked upon in various parts of the  
country. The greatest distance I remember of hear-  
ing transformers hum was approximately half a  
mile; perhaps a little greater than that. Mr. Sheaff,  
the plaintiff, never appeared to me, during the time  
he was working with me to be in any wise incompe-

tent to perform any duties assigned to him.  
496 He appeared able to carry on his work in a  
satisfactory manner. With reference to all

this work that I have detailed, the soldering of wires,  
tapeing up wires, connecting them up, laying them,  
I would call work for the electrician. I recall a spe-  
cial instance to some technical work that Mr. Sheaff  
assisted me in. At the time the current was first put  
through the transformers at the [375] Fairview  
station, it was a matter of some doubt as to just what  
the current would be for those connections used, it

just depends on the characteristics of the  
497 transformers; and we made a preliminary try-

out, and at that time there was a poor connec-  
tion in the secondary wiring of one of the transform-  
ers, which fused; it burned out at the time the  
current was first turned in, making it necessary to  
get into that transformer or lift out the cord and re-  
pair it. We did that that night, Mr. Sheaff and my-

(Testimony of R. H. Halpenny.)

self. Mr. Sheaff assisted in the splicing of the joint at the point of fusion, and breaking and removal of charred insulation.

Mr. CANNON.—Q. What was the appearance of that joint after it had fused or burnt; when  
498 you and Mr. Sheaff went to work on it, how did it look?

A. Well, the connecting strip, copper strip between the two coils had melted out—blown; the ends of the strip had the ordinary appearance of a fused piece of metal, and the insulation, of course, was burnt back for a little distance at either side.

WITNESS.—(Continuing.) Some of the melted material had fallen upon the core of insulation in the vicinity of the break. After we had stripped the insulation, there was nothing to prevent us from seeing results of the burning there or fusing. Mr.

Sheaff assisted me in stripping the insulation  
499 down to the point where the fusing could be seen. I had a conversation with Mr. Sheaff in reference to his use of spurs in climbing poles. I asked him if he could climb. He gave me to understand that he could. I cannot recall the answer he made. I simply remember that I gathered from our conversation that he was able to climb. The highest price paid to linemen during the time I was working there was four dollars and a half. I would say that was the ordinary pay of linemen for work [376]  
around there. The ordinary pay of an electrician's helper was four dollars. We did not  
500 pay any more than four dollars for electrician's helpers.

(Testimony of R. H. Halpenny.)

Cross-examination by Mr. GEDNEY.

I first saw Mr. Sheaff at Fairview; at the time I saw him he was returning from work. I next saw him the next day, when he was working on the construction line from the main line to Fairview station. I worked with him a few days. He was digging holes, raising poles, stringing wires. I don't remember whether he was stretching the wire out, or carry-

ing it up on the pole after the wire had been  
501 stretched out. This was on this branch line.

I am not sure that I saw him at that time carrying the wires up on to the poles. I wasn't along the line at the time of the stringing; after the poles were raised; I didn't spend much time on that line itself at that time; I started work up at the station by myself—worked there for a day or so while they were stringing the wire. I can look back now and say that I saw him on the pole down there during that time.

That was on that substation line. That was  
502 the first time I had seen him, practically. My

recollection is that he did tie in some of those wires. I don't remember if some four or five, or half a dozen of those wires that he tied in at that time had to be retied a little later. I don't know that the work was not properly done, and they had to be retied. I would not say that they did not have to be

retied, but if they did, I knew nothing about  
503 it. I could not say that that was the first time

he ever tied in any wires. After Mr. Johnson had hired him he just turned him over to me. I didn't employ him in the first instance. I don't know



(Testimony of R. H. Halpenny.)

what was the contract of employment between Mr. Johnson and Mr. Sheaff. I believe it was about May fourteenth that Mr. Sheaff started to work for me. The first work done under me was at [377] the station at Fairview.

Mr. GEDNEY.—Q. At the Fairview station; now at the time that he came over to work under you, was there any understanding between you and Mr.  
503 Sheaff as to what he was to do?

Mr. CANNON.—Objected to as calling for the opinion of the witness.

The COURT.—That question can be answered by yes or no.

A. Yes.

Mr. GEDNEY.—Q. What was that understanding?

The COURT.—He had better state the facts, and not the conclusions.

Mr. CANNON.—We object as calling for the opinion of the witness.

Mr. GEDNEY.—Q. State the facts concerning this understanding, or governing this understanding.

The COURT.—If it was a matter of conversation between you and Mr. Sheaff, state what that conversation was, what you said and what he said.

504 A. I could not state what the conversation was.

Mr. GEDNEY.—Q. You cannot state it?

A. I cannot state it, no.

Q. State the substance of it.

A. That he was to assist me, which he agreed to

(Testimony of R. H. Halpenny.)

do in the construction of the station.

Q. Was there any agreement or understanding there, that he was to act as a lineman?

Mr. CANNON.—Object on the ground it is calling for the opinion and conclusion of the witness.

The COURT.—Well, he can answer yes or no.

A. Not at that time. [378]

Mr. CANNON.—We note an exception to  
505 the ruling.

The COURT.—Let the exception be noted.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 31.**

WITNESS.—(Continuing.) The time Mr. Sheaff was climbing these poles, I don't remember whose climbers he used. I think he didn't have a set of his own, perhaps he used my climbers. I could not say whose safety-belt, or whose tool-belt he used. I am not sure as to that. He had some tools of his own.

He had pliers, I remember that distinctly. He  
506 had pliers and a pocket knife. I first asked him if he could climb a pole at Wonder, about the middle of June. That was after I saw him up on the pole at that branch power line. I don't remember whether he used climbers to go up on that pole at the time I saw him building that subline or not. I remember the poles I saw him on were switch poles, at the time the switch was raised at Fairview. The building of that switch was done before Mr. Johnson left. Prior to the time that I saw him tying  
507 in the wire to the switch pole in the Fair-

(Testimony of R. H. Halpenny.)

view station, I had not seen him up on any pole before that. Not that I remember distinctly. Mr. Sheaff could get up on that switch pole by using a ladder. I think he did use a ladder, one we had made there, about fourteen feet long. The switch pole was about nineteen feet to the top. Mr. Sheaff tied in some of the wires at the top of the switch pole. I think I tied some myself. The wiring from the switch pole over to the house,

I think Mr. Sheaff and I put in. I don't  
508 remember whether I used a ladder or climbed up with climbers. I suppose I got the material there that that ladder was made of. It was made of two by fours, I think, and cross pieces nailed on. I think [379] perhaps Mr. Granquist made it. I am sure he used one in the construction station. This model just represents a switch. That block there is supposed to represent a galvanized iron frame, put to scale about the length of that, about the width; and in depth it is somewhat deeper than that block; the scale about fifteen inches in depth.

509 That was made out of galvanized angle iron.

You didn't go up to work these switches this way, it was done from the ground. An extension of the galvanized frame—three extensions, angle iron extensions—served to support what is known as the rock shaft, simply a piece of steel shafting; and on this rock shaft there were three pins supporting insulators; each of the insulators had a cap at the top of it, which was fastened to the blade by means of a connecting rod or connecting strip; and one of the



(Testimony of R. H. Halpenny.)

pins had an extension on it, extending below  
510 the rock shaft; this in turn was connected to  
a small crank, which crank was fastened to the  
top of a galvanized pipe, termed an operating rod;  
and by turning that pipe by means of the handle at  
the lower end, the rod would be made to turn, the  
crank would turn; that, in turn, would pull this pin  
I have referred to as extending below the rock shaft,  
through a certain angle, which would throw the in-  
sulators either forward or backward; and  
511 that would raise the blades, raise them simul-  
taneously. When you threw that switch  
there would be an insulator here that would  
throw, this whole insulator would swing, and the  
blade would come up that way. That was worked  
with a crank set down here between the two,—  
a cast iron handle with a piece of wood at the  
end of it. You turned a half circle to turn that  
switch on or off. That was a piece of three-quarter  
galvanized pipe, I think. That was insulated by  
means of these insulators from the rock shaft.  
512 There was not any current in that pipe at all.  
There was a board placed there at some time, I  
imagine [380] to stand on when that was being  
turned. I recollect seeing a box there. I don't think  
at that time there was a platform there that was in-  
sulated from the ground with some of these insulat-  
ors. I am not sure that there was one at that station,  
or not. I have placed some at switches. My idea in  
placing those insulated platforms at those places was  
for protection in operating the switch. It was con-

(Testimony of R. H. Halpenny.)

sidered that it might be dangerous at any time; not  
necessarily dangerous at the time. I would  
513 say that was not dangerous, and then qualify  
that by saying that so long as the insulation  
remained perfect, that it was not dangerous; the in-  
sulation of the insulators remained in perfect condi-  
tion on that switch, which would not be dangerous  
except for the possibility of that insulator breaking  
down, and the wire in any way becoming connected  
with the frame-work. If one of the insulators  
cracked, it might go through, over the surface of the  
crack. If one of the insulators cracked, and it be-  
came connected through that crack with electricity,  
this would be dangerous here to handle this  
514 rod without being insulated.

Mr. GEDNEY.—Q. An ordinary man look-  
ing at that thing could not tell whether that was  
cracked, or not, could he?

Mr. CANNON.—Object to that as immaterial.

Mr. GEDNEY.—I want just to get out what the  
insulator is, that is all.

Mr. CANNON.—Objected to as irrelevant and im-  
material, outside of the issues, in no way connected  
with this accident, directly or remotely, or with any  
charge in the pleadings.

The COURT.—I will allow the question; you may  
have an exception.

Mr. CANNON.—We note an exception. [381]

The action of the Court in allowing said  
515 question to be asked and answered is here as-  
signed as

(Testimony of R. H. Halpenny.)

The WITNESS.—By looking at it?

Mr. GEDNEY.—Yes.

A. He might, or might not.

WITNESS.—(Continuing.) These insulators are made of glazed porcelain, a very fine grade of porcelain. I would not say they are very brittle. They would not stand being hit with an axe, or hammer. A surge on the line would sometimes break them, but it has a tendency to flash over rather than to break. The result of lightning would be the same as a surge.

Lightning induced from clouds, and the result-  
516 ant surge, might or might not break them. I doubt that a runaway at the plant would break them. There is a possibility of a runaway at the plant. When a load is shut off of a wire that much power is taken off the generator, by the reduction of the power supplied by the prime mover. If there were sixty thousand volts coming in on these wires and they are carrying a heavy load at the Nevada Mines station, and this switch is suddenly  
517 opened, it would not necessarily *through* too much power on the rest of the line. The generator at the other end generating this electricity is doing enough work to supply all this power at the different places. If they suddenly stop using electricity at some one or two points, it is not usually the case that the generator is then generating too much power. A runaway is simply an increase in speed, due to any one of several causes. To answer that, one of the causes would be taking part of a load off, I would have to qualify it by saying that such a



(Testimony of R. H. Halpenny.)

condition would not exist in the ordinary  
518 plant. The governor takes care of that.

Mr. GEDNEY.—Q. The governor takes care of that; [382] now just explain what that governor is, and how it takes care of it.

A. Well, you are all familiar with the principle of the fly ball governor, that is used on steam engines, and stationary; that same principle is made use of in the hydraulic governor with certain modifications and adjustments, using oil under high pressure, and the admission of this oil by the governor itself; by the primary operating mechanism of the governor, this oil is admitted to the cylinder, which, in  
519 turn, moves the controlling gates or needle, which allows a certain amount of water to flow, or causes that amount to diminish.

Q. In other words, it is an automatic contrivance that works from the volt-meter, that shuts off part of the water when there is too much load put on the line?

A. No, I never heard of one working from the volt-meter.

Q. What does it work from? A. Speed.

Q. Then it is an automatic contrivance, that automatically regulates the amount of water, so that that regulates the amount of voltage, isn't it?

520 A. Not directly; not in itself; the governor takes care of the speed only.

Q. Well, the speed takes care of the voltage, doesn't it?

(Testimony of R. H. Halpenny.)

A. It is one of the factors that enter into the generator.

Q. At the time of the accident was there that kind of appliance at the power station?

A. A governor?

Q. No, this automatic contrivance that shut off the power.      A. Yes.

Q. Are you certain about that? [383]

A. I am pretty sure of it.

Q. Is it not a matter of fact at that time at the power station the man watched that volt-meter, and when the thing went to running away, that he  
521 shut it down; and that automatic appliance has been put in that power station since?

A. No, that is not true; that is not correctly stated.

Q. Just state it correctly.

A. The governor was there at the time; a man did watch the voltage and control it by a needle-valve on the exciter.

Q. Then if that man left his station for any time, there was liable to be a runaway on the plant?

Mr. CANNON.—Object to that as conjecture, incompetent, irrelevant and immaterial, and outside of the evidence.

522      The COURT.—You can answer whether there would be any control there, or regulation.

Mr. GEDNEY.—Q. If that man left his station, would there be any control or regulation?

Mr. CANNON.—Object to that as conjecture, in-

(Testimony of R. H. Halpenny.)

competent, irrelevant and immaterial, and outside of the evidence.

The COURT.—You can answer whether there would be any control, or regulation.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 33.**

A. The amount of current was not regulated there directly.

WITNESS.—(Continuing.) It was that  
523 man's duty to stay there and regulate the voltage. If he was not there, the speed would regulate the voltage in that case. A man would have to be there for voltage regulation. As the load would change, the speed would change slightly too; suppose a certain [384] load was being carried, and that was changed, the characteristics of the generator would cause the voltage to change slightly, and that little difference would be taken care of by the change in the field strength of the machine, this change being effected by the operation of this needle-valve. The man operated the needle-valve when it was necessary.

524 Mr. GEDNEY.—Q. Now, if there was a sudden throwing off of power, and that man didn't immediately regulate that needle-valve, it would cause a surge on the line, would it not?

Mr. CANNON.—Objected to as incompetent, irrelevant and immaterial, and outside of the issues. The issue charged in this complaint is that the plaintiff received his injuries at the live end of the wire



(Testimony of R. H. Halpenny.)

or pipe in the lightning-arrester; and there is no charge in the complaint that he made any connection with, or received any spark, either in  
525 contact or by jumping, from the dead wire. It is a matter entirely outside of this case.

Mr. GEDNEY.—It has a great deal to do with how far that spark would jump; that is one of the issues in this case.

The COURT.—If that is the case, go on.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 34.**

A. Under the conditions then I would not say it would cause a surge; the loads were not heavy enough.

526 WITNESS.—(Continuing.) There were very small loads on the line. If they had been turned, it would hardly be spoken of as a surge, it would be of such small value. A very light [385] load was carried at that time at Bodie and Aurora. At the Nevada Mines station at Fairview a load of one hundred and fifty or two hundred horse-power was being carried, something like that—small. There wasn't a load being carried at that time at Wonder. They were not using electricity so far as I know at the Wonder mine; they were not  
527 getting it from the Pacific Power Company. I will retract that statement; I was thinking of the 13th of June. At the time of the accident, on the 18th of July, they could not be said to be using power

(Testimony of R. H. Halpenny.)

at Aurora, nothing but some lights. Bodie could almost be omitted too; the two stations at the end of the line were about the only ones. The Nevada Wonder was using power in varying amounts. It was a light load, as I remember it that day. At the

528 Nevada Hills, I don't know how much they were using that day. At that time of day it

would be an average load for them, I guess, perhaps three or four hundred horse-power. I don't know how much horse-power was being generated that day. There was simply enough being generated to take care of the loan on it. I suppose the Nevada Hills would be using about half of what was being generated. If you threw off half of what was being generated, I think it would not cause a surge on that amount. It would cause a slight rise of voltage, but

529 a surge is a term that is usually used to describe something that is sufficient in intensity to possibly cause trouble; of course, any

sudden transient—any transient change, might be termed a surge, it is of that nature. If you suddenly opened a switch and threw off half of the power, I don't say that it would not cause a surge; I said it might possibly cause a slight rise. If you suddenly opened a switch on a line whereby you discontinued to use half of the electricity coming over that line, it would not necessarily or ordinarily cause a heavy surge on that line. [386] It all depends on

530 the characteristics of the line, the amount of load, and several other things. If the load was small, half of it would not amount to much. This

(Testimony of R. H. Halpenny.)

line that day was not furnishing by a good deal all the power it had been built to furnish. The line would carry easily six or seven times that much at that voltage, I should say; the amount of power that was actually being used that day at those stations.

Mr. GEDNEY.—Q. If there was a surge on this line, caused by the sudden throwing off of  
531 power, it would make this handle here a dangerous thing to have hold of, wouldn't it, by reason of the fact that it might break one of the insulators?

Mr. CANNON.—Objected to on the ground it is incompetent, irrelevant and immaterial, and outside of the issues.

The COURT.—The ruling will be the same.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 35.**

A. It would be very remote.

Mr. GEDNEY.—Q. Very remote, but it is possible, even probable, isn't it?

Same objection, ruling and exception.

532 The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 36.**

A. No, not probable by any means.

Mr. GEDNEY.—Q. Supposing lightning struck the line, back on the line some place, that would cause



(Testimony of R. H. Halpenny.)

a surge, as I understand it?      A. Yes. [387]

Q. And that would make this handle a dangerous contrivance, would it not?

Mr. CANNON.—Objected to on the ground it is incompetent, irrelevant and immaterial, and outside of the issues; all of the evidence, both on behalf of plaintiff and defendant, is that there was no lightning on the line that day.

Mr. GEDNEY.—Not at Fairview; we don't know about that at Bodie.

Same ruling and exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 37.**

A. It might be considered dangerous.

WITNESS.—(Continuing.) A surge or anything of that kind on the line, if it was of sufficient force, would cause the lightning-arrester to work without there being any lightning on the wire. If a man was standing hold of one of these dead arms when that surge crossed there, he would feel it. It might and might not burn his hand. It would all depend on the nature of the ground. I consider that a very good ground, although there are four turns in the wire that I know of. There would be one where it came to the ground, one where it got to the pole, one at the top of the building. I would not consider where it went up to the pole a turn—the pole held the wire at such a level that the two spans were about the same distance from the ground. It

(Testimony of R. H. Halpenny.)

ran then practically level from the top of the roof and there was one turn that went down into the shaft. That would make four turns, and then the plate was suspended in the water. That water was not chemically pure. I know that from the appearance of it and the smell. It was an accumulation of dust that had [388] blown in, and mineral particles held in suspension, and many things you will naturally find in an old shaft. Very lightly vegetable decay. The mineral particles might be held in suspension, certain things from mineral, sufficiently small. We always consider water, 536 unless it is pure, a good conductor. You take it for granted that there must have been chemicals or minerals held in suspension in that water. If that arced it would follow the conductor. That is two number four wires. The size of the high tension wires is number four. There were two of them. The size of the wire that went from the dead arms, down, I think was number four. I believe that was a single wire.

Mr. GEDNEY.—Q. Well, in your opinion as an expert, do you think that a charge which would 537 be sufficiently strong to jump this gap, would follow those two wires from the ground up alongside the building, and make four turns into the shaft?

A. Well, if it didn't wish to follow it from the ground, it would remain in the ground; that is the point it was supposed to be taken to.

Q. Then a man standing there would be practically

(Testimony of R. H. Halpenny.)

as good a conductor as that wire, if it went off the wire into the ground, wouldn't he?

A. Not by many hundred per cent.

WITNESS.—(Continuing.) It would be a  
538 very much smaller resistance than the man himself. If a man was holding on to one of these dead arms, it would perhaps shunt a small portion, an infinitely small current through his body, depending altogether on the nature of the two resistances. The sparking distance for that gap is about fifty-six thousand volts. That would be fifty-six thousand volts between the wire and the ground. That would be about eighty-seven or ninety [389] thousand volts on the line between wires. Fifty-six thousand on the wire makes thirty-two thousand between the wire and the ground, approximately—a little more than fifty per cent.

539 Mr. CANNON.—That ought to be fifty-five thousand.

Mr. GEDNEY.—Q. Now, if there is fifty-six across here, it would be nearly double between the wires, wouldn't it?

A. No; to be exact, it is 1.732.

WITNESS.—(Continuing.) That would be, as I have said, about eighty-seven thousand volts. If there were eighty-seven thousand volts came down that wire, and jumped across there, the way this was arranged, the electricity would go to the ground.

Under that construction the potential would be  
540 diminished by the discharge of the lightning-arrester. Fifty-six would cause the jump.



(Testimony of R. H. Halpenny.)

All the electricity would not go that way, because it is still connected with the plant; the generator is still running; the arrester is just there to take momentary or dangerous rises of potential. It is necessary to have the cement blocks in order to prevent a severe strain on the apparatus at the plant. It tends to limit the flow of current to the ground. When it is a dead ground, I can't say that it takes all the current off the wire. If measured right here at the point of

the dead arm, before it jumps, the voltage  
541 would be fifty-six thousand. I never heard of

an instance were a man was standing on the ground holding a live wire with fifty-six thousand volts in it, that he was not burned. If Mr. Sheaff had been standing, having hold of that dead arm that day, and this had gaped, he would not necessarily have been burned. Well, you will have to consider what drop there will be be, on ohmic drop in that

short length of wire, that is altogether what  
542 would [390] determine whether or not he would be burned. I would not care to say that

he would not feel it. I could not state that he would not be burned, because I would not know what the character of the ground was. When I sent Mr. Sheaff over there, I knew it was safe for him to work where I sent him to work. He was not supposed to take hold of it. If he did take hold of it, if he was wrapping a string around there to get the perpendicular to the ground and that current had come at

that time, he would not necessarily have been  
543 burned. I would not say that he probably

(Testimony of R. H. Halpenny.)

would. I would not say that he would not without knowing the exact condition. When I was constructing this lightning-arrester there was reason why I could not have constructed it higher than it is. We wished to keep the dead-horn a sufficient distance below the live line. At the same time giving the two horns sufficient spread between one another. If the switch had been ten feet higher, this dead arm could not have been practically ten feet higher, because if

you raise the dead arm ten feet higher, you  
544 would have to raise the live arm ten feet higher, and that would shorten it up, so you

would not have hardly any room at all. If the live wire came down practically four feet of where it is, and the high tension wires were raised, I don't think you can get sufficient spread between the arms by making the live horn that short. One horn doesn't need to be any longer than the other. If this were simply raised up here four feet the same spread would not come. The reason why the wires going into the building could not have been raised

545 higher was because the building was constructed that way. There is no reason why the building should have been made higher. The wires coming into the switch came on a slight angle dropping down to the switch [391] from the last pole. I could not say there was five feet cut off the last pole. The switch could not have been higher because it was desirable to take the wires leading from the switch to the building, into the building at the level, in a level position. They are not always taken

(Testimony of R. H. Halpenny.)

in that way. The wires on the inside of this  
546 construction go in there and make a curve.

After they get in here on a horizontal line, they turn down on to a vertical line. If they came in on a slope, that turn would be less abrupt—be greater or less than a right angle—it does not make any difference. There is this point to consider there; one of the reasons it is just as well to have them level, or lower, in fact, moisture will run down that wire, and if atmospheric conditions are just right, will help

the formation of sleet on that insulator, on the  
547 bracket arm of the building; that is one consideration to be taken into account. There is

another reason; the use of that switch there necessitated a level position of the wires. I spoke about some movable rock insulators this morning that the wires go down as they do from the insulators that are indicated there in the model; they very likely will interfere with the movement of those insulators, if the switch itself were not level. It undoubtedly would interfere with them. It would interfere more than where the wires were on a level, because they are

above the insulator now, off above without in-  
548 terfering. I am speaking about the other in-

ulator, the insulator back of that shown there on the model; there is another about eighteen inches back of that, another set. That would be about eighteen inches further toward the building. They are the ones that rock. If the wire was set on an angle from them, I know the switch would not work so well. We have had that trouble before. With this size of



(Testimony of R. H. Halpenny.)

a building that is the highest that we could build the lightning-arrester. [392] The lightning-arrester at

Wonder is built very similar. It is to one  
549 side. It was put to one side because you don't have the same ground to work on at Wonder.

It is over six feet. The live arm of the arrester is in the neighborhood of six or seven feet, probably seven feet; I know it is at least seven feet. I would not say it was eight feet. The dead arms may be eight feet, but I don't think the live arms are eight feet. They would not both be the same. The ground

sloped there about one foot in six. This  
550 ground at Fairview was level. Down on the hill below it is steeper at Fairview—possibly

twice as steep as that. The switch posts could have been moved back and the posts made higher. In all the work that I directed Mr. Sheaff, we were working on dead wires, excepting the low voltages. We connected up one hundred and ten and one hundred and twenty volts in the process of drying out and putting up lights in the station. I think some changes were made with it on, very likely would be. My recollection is that Mr. Sheaff made some changes.

551 We used one hundred and ten volts for lighting in the station; sometimes it was necessary to move the position of the lights from one place to another, and it was some such removal or change that this work was done. Mr. Sheaff handled some live wires in the Wonder substation. He was making a connection near an insulator. The purpose of that wire was to carry a current to an incandescent lamp.

(Testimony of R. H. Halpenny.)

Mr. GEDNEY.—Q. Did you see him have hold of the wire? A. I cannot answer it yes or no.

WITNESS.—(Continuing.) Some of the  
552 wires that were used inside of the substation were insulated and some were not; probably half of them were not insulated. Well, I might say this, that the insulation on the wires that were insulated, [393] did not amount to anything, might be considered the same as bare wires at that voltage; so you might say they were not insulated, any of them. I told Mr. Sheaff of it, if he didn't know that fact, while we were working on these wires. I told him that that insulation was no good at that voltage.

That was when we were using them, and there  
553 wasn't any electricity in them at that time.

When we were drying out these transformers, I didn't do all of the connecting and wiring. What Mr. Sheaff did, I told him just where to make a connection of a certain wire, and I put the thermometer down in the box or can and showed Mr. Sheaff just where to put that in there. He was supposed to put it back in the position it was in when he pulled it out. During the night shift he was not supposed to do any work except keep the place clean. The operation  
554 tion carried on during the drying out required him to turn the button, or throw off the switch, pull up that thermometer on the end of the string, look at the thermometer, and put it back where it came from. He had to watch the volt-meter and ammeter. They would be very good indications in case of trouble. He knew what the normal current

(Testimony of R. H. Halpenny.)

taken was, what the flow was, and any increase over that amount would show that something was wrong.

There was a needle on that where you could see if it ran up past that. I told him that if it did

555 run up past that, that would mean trouble. If

there was trouble on the line he was to pull the switch and notify me. During all this time there were times when Mr. Sheaff was working around electricity when he was not under my immediate supervision. I would not be in the station all the time, and would leave him to carry on certain jobs, making connections back of the board. After I told him just where to make the connections I left him there to make them. I left him there to place in-

ulators, run wires along the [394] wall.

556 I would tell him where I wanted him to run

them. He made connections, disconnected switches, bent wires and taped up joints. I would show him how to do those things if it was necessary.

There were several times when it was not necessary.

From Mr. Sheaff's actions when he first came to work under my supervision, he appeared to know about electricity. He used some of the simpler electrical terms that are in common use among electricians.

When I had him build that helix, I told him how to do it. I didn't in every case show Mr. Sheaff

557 how to do it, nor did I tell him how to do every-

thing, he did under my supervision. Things that he did after my telling him how to do it were placing insulators, stringing wires and making joints. I showed him how to make certain joints and showed



(Testimony of R. H. Halpenny.)

him how to wrap the joints that were wrapped. I think there were some kegs left there when Mr. Sheaff got hurt. I don't remember whether, the day that lightning-arrester was put up, that Mr. Sheaff arranged those barrels that were left there along in front of the building. The next day after the  
558 accident there was a danger sign on the switch post at Fairview. I am not sure who put it on there. It was a piece of blue-print paper about twelve by eighteen inches. When Mr. Sheaff was going toward a wire that was exposed, I would say to him, "Look out, Mr. Sheaff, that is hot," or something like that. When he would be working in the neighborhood of any wire which he could not see, or when he appeared to forget the existence of,  
559 I would say, "Look out, Bill, don't go too close," or something of that nature. I had warned him on several occasions against different wires that were in the building. They were hot. He seemed to understand the situation that those wires were hot after the first warning. Before that, I would not say that he didn't seem to know that the wires [395] were hot. He seemed rather to forget that those wires were there, and that was the reason I warned him. During all the time Mr. Sheaff was working under me, I did all the directing  
560 and supervision. I told Mr. Sheaff what to do and what not to do. The day that I sent him to Fairview, I told him that day just what to do. I told him to dig those holes and set those blocks. He dug the holes and that was part of what I told him

(Testimony of R. H. Halpen̄ny.)

to do. Even up to that time I had directed him and supervised all the work that he had done; and up to that time he had continually been under my immediate supervision. He had been away from me to do work by himself. He built the line himself. That was something like three-eighths of a mile from me, I believe. That was working absolutely on dead wires. I at that time considered him an electrician's helper. This was not the first time that Mr. Sheaff was sent out by me from where I was to work in the vicinity of live wires. He had been sent to each of the two stations, Fairview and Wonder. That is the first time I ever sent him twelve miles away, as far as that. Before that, I had never sent him any great distance to work around live wires. We never had anything to do with the wires when they were alive at that high voltage. We worked around the lower voltage wires—sixty-six hundred volts. I knew the dangers attending this apparatus at Fairview before I sent Mr. Sheaff there. I knew what would happen to him if he came in contact with one of those live arms. I instructed him before I sent him to keep away from those. I told him not to touch any of the connections, or make any changes. By "touch the connections," I meant not to touch any of the parts of the arrester itself. That meant he was not to touch any of the live parts or connections, and the parts on the arrester, meaning by that, the horns. By "touching the connections" I meant not to touch any of the live parts. [396]



(Testimony of R. H. Halpenny.)

Mr. GEDNEY.—Q. Why did you say don't touch any of those live parts, or don't touch any of those other parts?

A. Well, I will explain it in this way, that at the time of sending a man to do a piece of work, after he has done similar pieces of work, and worked in the vicinity of wires, you naturally make an assumption that he knows by previous experience what he should do in the way of safeguarding himself.

WITNESS.—(Continuing.) I assumed that he knew the danger there, and that was the reason I didn't instruct him. I knew what experience Mr. Sheaff had had under me dealing with live wires at the time I sent him over there. I knew how this machine could become dangerous. I know how high those arms were off the ground, and I knew if a man came in contact with them, what the result would be. I didn't have him make those connections because I wanted to attend to that myself. It wasn't because Mr. Sheaff wasn't competent to do it in my estimation. The reason I did not instruct Mr. Sheaff to do it was because I wished to wait until I got over there, and make arrangements for a shut-down long enough to work on this. At the time of making connections, or taking those tie wires off those arms, I certainly would throw that switch.

Mr. GEDNEY.—Q. Then when you took the tie wires off it would be a dangerous place, would it not?

A. It would.

Mr. CANNON.—Objected to as calling for



(Testimony of R. H. Halpenny.)

the opinion and conclusion of the witness.

The COURT.—I will allow that.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 38. [397]**

A. It would be dangerous because at the time those wires were taken off and working on them, the pipe might become loosened, and slip over, decreasing that gap distance.

Mr. GEDNEY.—Q. Then, you do not consider that Mr. Sheaff was competent or capable of taking care of himself in putting on the wire, did you?

567 Mr. CANNON.—Object to that on this ground; that he was not directed to do anything of that kind, and therefore the question as to whether he thought he was competent to do that or not, is incompetent, irrelevant and immaterial to any issue in this case.

The COURT.—I will allow that question.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

**Error No. 39.**

A. I considered him perfectly competent to do that.

568 WITNESS.—(Continuing.) I was going to make the trip from Wonder, a distance of sixteen miles, over there to do that work, because I was

(Testimony of R. H. Halpenny.)

going out by way of Fairview—leaving that part of the country. I wished to make certain arrangements with the Mining Company. I didn't have Mr. Sheaff do all that work because the Mining Company usually required some few hours—a day, if possible—notification of a shut-down for any length of time.

We had a telephone at Wonder. If I notified them at Wonder before Mr. Sheaff left there that I was

going to shut that down, it would not have

569 given us time. They would want about

twenty-four hours. I didn't know twenty-

four hours before Mr. Sheaff went over there, that

he was going over there to make that connection, or

do that work. It took him about half a day to make

those blocks for [398] that Fairview substation.

That was some time before the day he went over

there. We knew we were going some time. I think

it is not a fact that Mr. Sheaff and I were going

together over there that morning. The rea-

570 son I remained was because I was waiting for

some bushings and tape that come in that

night. That was the night Mr. Sheaff left there in

the morning. It was not my intention to go over

there that morning, with Mr. Sheaff. The oppor-

tunity presented itself for him to go that night, or

early in the morning, because of the coming over of

an extra wagon, as I remember; a stage running—

this was not the regular stage, as I recall it now,

it was an extra trip the stage driver had made;

and since the material arrived that night, the

(Testimony of R. H. Halpenny.)

571 material that I was waiting to use myself, and  
the opportunity for sending these blocks over  
presented itself, I sent the blocks over, and sent Mr.  
Sheaff over to put them in, thinking that it would  
hasten matters that much. I first informed Mr.  
Sheaff that evening that he was going over *the* Fair-  
view that morning. There had not been any talk  
about it that I remember before that time. The day  
of the accident I did not notice any surges on the  
line, or power being turned on or off. I did not  
notice anything out of the ordinary with my  
572 volt-meter there. I did not know at the time  
that Mr. Sheaff was hurt. I was evidently  
therefore not watching the instruments at that time.  
I don't know whether there were any surges on the  
line at the exact time of the accident, or not. There  
was a telephone in the substation at Fairview,  
fastened on the wall on the inside of the building.  
The wire went out through the tin. There was per-  
haps a great deal of vibration on that wire at differ-  
ent times. This vibration was set up by the wind.

The vibration on that wire was not what I  
573 would speak of as loud. I don't believe you  
could hear it fifty yards away. [399] If  
that telephone was buzzing when you were out in the  
vicinity of that wire, I think you could hear the  
transformers from the outside of the building. I am  
sure you could. I have known of men in the west  
working upon high tension wires where there were  
seventeen thousand volts. They would work on it  
in the ordinary way. They would work on the pole.



(Testimony of R. H. Halpenny.)

Whether a man could touch a wire containing seven-  
teen thousand volts of electricity on a pole,  
574 if he were on a pole, and was not otherwise  
insulated, depends altogether on the character  
of the pole.

Mr. GEDNEY.—Q. Ordinary poles as they are  
used along on these high tension systems.

A. In a dry locality, it might be perfectly safe.

Q. In a dry locality, where would that be?

A. In the desert.

Q. Down by Wonder and Fairview? A. Yes.

Q. Would you consider it safe for you, yourself,  
to work upon a wire carrying seventeen thousand  
volts, upon a pole down by Fairview or Wonder?

Mr. CANNON.—Objected to on the ground it is  
incompetent, irrelevant and immaterial, has  
575 nothing to do with this case, and has nothing  
to do with the competency or incompetency of  
Mr. Sheaff.

The COURT.—I will allow the question.

Mr. CANNON.—I note an exception.

The action of the Court in allowing said question  
to be asked and answered is here assigned as

**Error No. 40.**

A. I would consider it safe under certain condi-  
tions.

WITNESS.—(Continuing.) You would certainly  
have to prescribe the conditions. That would be a  
pole that I knew was dry. Whether it was  
576 dry would depend on the age of the pole and  
the character of the wood. I have worked on

(Testimony of R. H. Halpenny.)

wires carrying [400] twenty-two hundred volts when I was up on a pole. I know from hearsay the amount of electricity they use in electrocuting men in Sing Sing. It is seventeen hundred and twenty-two hundred. Twenty-two hundred volts up on a pole would kill a man if he came across two of the bare wires at the same time. I would not say that there would be no doubt about his being killed. He might perhaps break his hold on the wire, and fall; and there might be a dozen things happen. The laborers' wages there were three and a half to four dollars. Linemen's wages were four and a half. Mr. Campbell was paid four dollars. Mr. Campbell was not given overtime enough to make it five dollars. He complained when he was paid the four dollars. The Pacific Power Company never paid through me, as foreman, any more than four and a half a day that I remember of. I considered Mr. Sheaff a lineman by paying him four and a half a day. There is quite a good deal of difference between a lineman and an electrician. An electrician would require the most knowledge. When I was talking to Mr. Sheaff over the 'phone, I think there was nothing said about the live arms of this arrester or anything of that kind. I don't think I warned him of his danger at all over the 'phone. I was talking to him over the 'phone about eight o'clock. That was after breakfast, and I had gone to the substation. He called me. That 'phone did not connect up with the substation at Fairview. The Nevada Hills people

(Testimony of R. H. Halpenny.)

had a 'phone in their office at the mine.  
579 While I was at Wonder, I was boarding and  
staying at the hotel. Mr. Sheaff stayed there  
too. I am slightly acquainted with Mrs. Adams. I  
knew her a few days before the accident. I knew a  
young lady who was working for her as waitress at  
that time.

Mr. GEDNEY.—Q. Did you in the dining-room at  
Mrs. Adams' hotel on the morning of the 18th of  
July, 1911, between [401] the hours of six and  
eight o'clock, when Mrs. Adams and this young  
lady who was the waitress were present, say  
580 to them "Did Bill go?" and upon being an-  
swered in the affirmative, did you not say to  
them "I should have gone to Fairview myself in-  
stead of sending Bill"? and did one of them ask you  
why, and did you then say "Well, Bill is not an ex-  
perienced electrician, and I am afraid he is not capa-  
ble of doing that work?"

Mr. CANNON.—Objected to on the ground it is  
incompetent, irrelevant and immaterial, and not in-  
volved at all in any issue in this case. The com-  
plaint alleges, and the answers admits, that  
581 he was an electrician's helper. No founda-  
tion has been laid for the question. The  
place, persons present, and the person who is sup-  
posed to have made the remark or joined in the con-  
versation, is not definitely stated in the question.

The COURT.—I will allow that question. You  
may have an exception.

The action of the Court in allowing said question



(Testimony of R. H. Halpenny.)

to be asked and answered is here assigned as

**Error No. 41.**

A. I don't remember of any such conversation.

Mr. GEDNEY.—Q. Will you say that you did not say it?

A. I don't believe I said the last part of it.

582 Q. Will you say that you said the first part?

Mr. CANNON.—I object to the first part and last part as being rather indefinite.

Mr. GEDNEY.—Q. What part of that conversation did you say?

A. I won't say that I said any of it.

Q. Would you say that you didn't say any of it?

A. I will say that I didn't make the statement that I [402] should have gone myself.

Q. And you say that you didn't make the statement that Bill was incapable of doing that work?

A. No, I didn't say that.

583 WITNESS.—(Continuing.) I got the news that day that Mr. Sheaff had been hurt about 12:30, by a message calling me to the 'phone. I was at lunch at the time. Just immediately after that I remember Mr. Adams asking me about the accident which he had heard about. I don't know if that was in the washroom. That was sometime in the afternoon of the same day that Bill got hurt. I think that was in Mr. Adams' hotel that that conversation took place. I don't know that I made any such assertion as "I am sorry, I felt this morning  
584 that I should not have sent Bill over there."  
I would not say that I did not say it. I didn't

(Testimony of R. H. Halpenny.)

feel that morning, before I knew of the accident, that I should not have sent Bill over there. I did not have that kind of feeling at all.

Mr. GEDNEY.—Q. Then did you say to Mr. Adams at that time and place, when you two were present, that you felt that morning that you should not have sent Bill over there?

A. I might have said it, and not mean it in the same light you are trying to make it appear.

585 Q. Well, did you or did you not say it?

A. I can't say.

Redirect Examination by Mr. CANNON.

These signs were on a blue-print tacked on a board. I was Mr. Sheaff's boss; I was his superior. He looked to me for instructions and directions as to what to do. Mr. Sheaff was ordinarily called Bill among the men there. I don't remember of Mr. Campbell making any statement in the presence or hearing of myself, Mr. Herring and myself, and of

any of the others present at the time this  
586 lightning-arrester was being [403] built at

Fairview, that it was criminal negligence to build that lightning-arrester that way. I don't remember of anybody saying in my presence there in any conversation that this was a cheap construction, or a cheap company, or anything of that kind. I knew Mr. Sheaff had pliers of his own. They were used for cutting wires, and wrapping wires. There is no occasion for a laborer in that work to have pliers. In these switch-boards, in these two sta-

(Testimony of R. H. Halpenny.)

tions, there was a board plank placed in front of the switch-board. That plank was put there as  
587 an additional precaution to an operator. The floor was of concrete, which is considered bad to stand on, if you touch live parts, or if there should be any leakage; the board was to serve as additional precaution for one operating the switch. I cannot say whether Mr. Sheaff put it there first or not; but we always used the board to step up on when operating the switch. There was not any board at any other place on that floor for that purpose except at the switch. The first time I distinctly re-  
588 member seeing Mr. Sheaff on a pole was the time he was on those switch-posts. At that time we were tying the wires on clamps at the top of the insulators—castings. He was assisting in tying the wire in. The casting to which I refer is on the top of the insulator, the wire is made fast to that, then turned, and soldered into a lug, and bolted to the switch. He was working on top of the switch-frame itself. These wires from the switch-posts into the substation were put in later. In connection with running these wires into the substation itself,  
589 he was fastening them, stretching them, and tying them in. Mr. Sheaff assisted me in pulling them and fastening them. These wires that were running from the switch into the substation were very nearly level. In case the power should be suddenly shut off at the Nevada Hills, the voltage would not [404] have increased on that wire from twenty-three thousand to fifty-six thousand volts.



(Testimony of R. H. Halpenny.)

Recross-examination by Mr. GEDNEY.

It is hard to say how much it would have increased. I know it would be a small amount. I certainly know it would not be twenty-three thousand. Switching could make that electricity jump from one horn to the other—  
590 switching of very heavy loads, such as we did not have on that system at the time. If both the Nevada Hills and the Nevada Wonder had been turned off at the same time on the 18th day of July, that would not have made that arc across there. It is hard to say how much more it would have taken. At the time Mr. Sheaff was working there, the arrester at Wonder was not enclosed or fenced. The lightning-arrester at Wonder was not enclosed by a fence before this accident.

**[Testimony of Mr. Charles O. Poole, for Defendant.]**

591 Mr. CHARLES O. POOLE, produced as a witness on behalf of the defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

I reside at Riverside, California. I am an electrical engineer. I have been in the business about twenty-five years. I first began business as an electrical engineer in San Francisco principally. I went in as a mechanical workman in San Francisco with the San Francisco Gas and Electric Company, at that time the Edison Electric Company. I continued for those concerns about twelve years. With those

(Testimony of Charles O. Poole.)

companies, I was a dynamo-tender, a machine  
592 hand, and finally went as foreman in the re-  
pair-shop, and from there to the superin-  
tendency of the company. That was at that time the  
California Electric Light Company. I was superin-  
tendent of that company about a year when they  
consolidated into the Edison Electric Company. I  
still continued in the same position [405] about  
four years. After that I went as superintendent of  
the Standard Electric Company, located in San  
Francisco. I was superintendent of that concern  
about three years, and after that, I was sales en-  
gineer for the Stanley Electric Company, Pitts-  
field, Massachusetts. I was with that com-  
593 pany about two and a half years, as I recall  
it. After that, I went with the Nevada-  
California Power Company as an engineer. The  
head office of that company was in Denver at that  
time—it is there yet. They operate in California  
and Nevada. They cover a good part of the south-  
ern part of Nevada—Goldfield, Tonopah, Rhyolite,  
Manhattan, Silver Peak, and intervening territory,  
and in the eastern part of California—on the eastern  
slopes of the Sierra Nevada Mountains. I am still  
a chief engineer of that company. I am chief en-  
gineer also for several other companies—the South-  
ern Sierras Power Company; the Pacific  
594 Power Company particularly. I was the  
Chief Engineer for the Pacific Power Com-  
pany on the 18th of July, 1911, when this accident  
in question happened. I have been chief engineer

(Testimony of Charles O. Poole.)

ence of twenty-five years, I have been brought into of this company since its inception. In my experience with electricity in practically all of the forms that it possibly can come before any one in general practice, and I am acquainted with lightning-arresters. I have known lightning-arresters

595 ever since I have been connected with the business. In July, 1911, there were several

different types of arresters on the market, and in use on different systems; some of them were what might be called what they term the electrolytic arresters; others, multiple-gap arresters; and the horn gap arresters, such as the one you have before you here, which is in common use, and was in common use at that time. All those that I have mentioned were in common use at that time. There is to

some [406] extent a difference in the fundamental principles upon which they all operate.

596 The electrolytic arrester is presumed to have

the function of keeping the static conditions of the line discharged, so to speak; accumulation of excess potentials are supposed to automatically be discharged through the arresters to the ground; sometimes they work, and sometimes they don't. The horn gap arrester is supposed to take care of extraordinary surges, lightning, and high frequency waves, that pass over a line, and that occur under certain physical disturbances. I found the horn gap most reliable and practical—the horn gap similar to



(Testimony of Charles O. Poole.)

the style that appears in this model with some  
597 modifications. I am not the originator of that  
concrete block idea. That was used quite ex-  
tensively on several different systems, most notably  
in New York State, on the Niagara, one of the  
Niagara lines, Lockport lines particularly; it is still  
in use there. That has proven about as satisfactory  
as any arrester we have been able to obtain. I  
would say that this arrester appearing in this model  
is fit for the purpose for which it is intended. The  
distance from the ground of lightning-arresters  
would be guided very largely by the local conditions,  
as to how far the wires were above it, and so  
598 forth; they must retain a certain distance be-  
tween the horns, and the leading—in wires to  
avoid short circuits, when the arc might go above the  
horns and lap over onto the conductors. If there  
was a short circuit it might cause damage, either to  
the apparatus at the substation, or the power-house,  
or the line in general. For instance, the switch  
poles here, if they were built considerably higher, so  
as to raise the outer part of the high-tension wire  
above the dead wire on the lightning-arrester,  
that would not obviate that difficulty to any  
599 great extent. Arcs are very uncertain as to  
how they will [407] rise, and how they  
shall conduct themselves. The safe manner with  
respect to keeping the high-tension wires away from  
the arc is to keep them as far away from the high-  
tension wires as possible, to keep the horns as far  
away as possible. It is always preferable to keep

(Testimony of Charles O. Poole.)

high-tension wires as near straight lines as you can, to avoid injury to insulators, and things of that character in case of lightning disturbances. There is always more likelihood from injury from lightning disturbances with sharp corners.

600       Mr. CANNON.—Q. Take for instance this situation appearing here, assume that this Fairview substation is built on the top of a knoll or hill, and that the ground on the westerly side slopes down, to say one foot in four, or a twenty-five per cent grade or more; and the poles leading to that switch are on that hillside, and the pole next to the switch-poles down on the hillside to some extent, would it be proper construction, in your opinion, to raise the switch-poles so as to make an angle with  
601       the wires coming up from the next pole to it, and then going down into the substation?

A. I don't believe it would improve the construction or the operation.

Q. Would it make or render the safety of the insulators at this point more or less dangerous?

A. It would be more dangerous.

WITNESS.—(Continuing.) It has always been my practice to put fences around the arresters to keep strangers out, or cattle or stock from wandering in. The purpose of the fence is to keep anyone from coming in contact with it, or interfering with it in any way. On lightning-arresters that I have spoken of, these electrolytic and others, there are those  
602       where a person could come into contact with them and get a shock. The practice is to get

(Testimony of Charles O. Poole.)

electrolytics particularly [408] set right on to the ground. With respect to the electrolytics setting on the ground, the entrance wires to the electrolytic tanks are all exposed, and can be reached, most of them, from the ground; the tanks themselves sitting on the ground, do not offer any particular hazard, in as much as they are in contact with the ground. They have, in connection with them, horn gaps similar to these, with the exception that they are  
603 smaller; these contacts are all exposed, and can be reached, many of them, from the ground. In my experience and practice, horn gap lightning-arresters have been built close to the ground.

Mr. CANNON.—Q. And do you regard that construction—I will ask you the general question: State whether or not you regard this construction as it appears here in this model, with the fence around it, built with the live wire five feet nine inches from the ground, and with danger signs reading “Danger, high voltage, keep out,” on one of the switch-posts—state whether or not you regard that as a reasonably  
safe construction?

604 Mr. GEDNEY.—We object to the question on the ground it is incompetent, and a question for the jury.

The COURT.—That is the very question for the jury to determine, is it not?

Mr. CANNON.—Well, I don't know; it seems to me that the line is rather close, as to whether it is a matter for expert testimony, or a matter for the



(Testimony of Charles O. Poole.)

jury, so we ask the question and take a ruling.

The COURT.—Very well; the objection is sustained.

Mr. CANNON.—We note an exception.

The action of the Court in sustaining said  
605 objection to said question is here assigned as

**Error No. 42. [409]**

WITNESS.—(Continuing.) I have had occasion to be in and out of power-houses, and other places where electrical apparatus was used, carrying high voltage and low voltage, during the last twenty-five years. I have been in and out of many power-houses, and other places where that kind of machinery and appliances are used. I have been in and about such places where employees are commonly and ordinarily brought into close relation with such machinery and appliances. The rule is general to have in  
606 connection with such machinery and appliances, live and exposed wires within the reach of the employees. I have never known a case where it is possible in power-houses and places of that kind where this electrical apparatus is used, to provide for all of the wires being placed in such position that they could not be reached by employees.

Mr. CANNON.—Q. Assume that the ground wires are particular wires, connecting the three dead arms, carried to the ground, in a trench carried to the corner of the building, and then put on the side of the building, and from the building over one post  
607 to a shaft several hundred feet from the substation, and there fastened to a copper plate

(Testimony of Charles O. Poole.)

immersed in water in a shaft, what kind of a ground would that be?

A. I would call it a good ground connection.

Q. With what kind of a ground connection, what sort of a conductor would you call this dead arm, as respects the other?

A. I would call it a good conductor.

Q. What kind of a conductor would that be as compared with the human body as a conductor?

A. Why, infinitely better than a human body.

608 Q. How is the human body regarded as a conductor?

A. Well, I have measured quite a number from hand [410] to hand, and it varies very materially, depending very largely upon the condition of the skin of the hands, moisture and so forth, varying from two thousand ohms to eight and nine thousand ohms.

Q. What does that mean?

A. It means there is that many ohms resistance, the ohm being a unit of resistance as used in calculations.

Q. What would be the comparison of ohms of resistance between the human body and the conditions you have mentioned, and the ohms of resistance in such a ground as is shown there?

609 A. The resistance of the wire would only have a fraction of one ohm.

Q. And the resistance of the body you say would be about two thousand ohms?

(Testimony of Charles O. Poole.)

A. Anywhere from two thousand to ten thousand ohms.

Q. And that is what you mean, is it, by saying this is an infinitely better conductor than the human body?     A. That is what I mean.

Q. Assuming that any part of a body were placed within four and a quarter inches of this wire, the same distance from the wire as the distance  
610     of the gap, and there should be a surge on the wire sufficient to cause the electricity to jump the distance of that gap, where would it jump, to the body or to the opposite side of the gap?

A. It would naturally go to the path of least resistance.

Q. And that would be where?

A. On the wire.

Q. In considering the jumping distance of the live wire of the lighting-arrester to another point, at the normal voltage carried, what would be the best  
611     kind of a point, in order to get the closest or the longest jumping distance? [411]

A. A sphere; a part of a sphere represents the most reliable and certain terminals from which to calculate arcing distances.

Q. How are they ordinarily calculated, from spheres or needle-points?

A. Of late they are calculated from spheres; but originally, and until quite recently, they were needle-points.

WITNESS.—(Continuing.) The human body would ordinarily be a larger surface, and offer a



(Testimony of Charles O. Poole.)

greater resistance, and be less likely to take the arc.

Mr. CANNON.—Q. Now, with respect to this dead arm, and the ground which has been described to you; supposing that a lightning charge did come  
612 over the wire, which would cause an arc to be formed at the gap, what would be the chance of safety, or otherwise, if any person should come in contract, should happen to be in contact or near the dead arm at that time?

A. There should not be any great hazard in being near it, or in actual contact with it, if the ground is as represented there.

Q. Assuming the ground as represented, what would happen?

A. The current would pass along the wire, and go to ground.

613 Q. Would that in that case be the line of least resistance?

A. That would be the line of least resistance.

Q. It would follow that, would it? A. Yes.

Cross-examination by Mr. GEDNEY.

If there is a square turn in the wire, it will not follow that around a square turn so well. In constructing a line, you would naturally have that line as straight as practicable. This lightning-arrester could possibly have been built on top [412] of the wires, but it is never usual practice to do that, and  
I have never used that system. I have seen  
614 the lightning-arrester at Tonopah. It is built alongside the wires. It is partly off to one side; there are several wires there, and several cir-

(Testimony of Charles O. Poole.)

cuits; it is more directly connected to one than it is to the other. The horns are higher, but it is a different type of arrester. It has three horn gaps in series with the ground; it is a different type arrester entirely. It is a horn gap arrester, but has two or three horns in series with each other; and it is necessary to set that up at a considerable distance above the ground, in order to interpose strings of

615 resistance that carry down in front of each horn gap to ground; those resistances require eight, or ten, or twelve feet, as I recall it now, in length, in order to find room for them. There are two arresters at Tonopah, only the resistance is a cement box or block set just to one side, and there is only one horn. That one is not set up on top of the construction. It is down below it, nearly the same

as this; it may be a little higher than this, but  
616 it is below the wires. The Nevada-California Power Company is the one I refer to. The

other one is the same company. The one I first referred to is built higher than the other one, because of being a different type arrester. There are virtually three sets of horns in this one I speak of now. I don't recall the exact distance the lower part is from the ground. I guess probably it must be eight or ten feet, something like that. I think the other one is about ten feet in the lowest part—beg your pardon,

the lowest part is right close to the ground,  
617 within two or three feet from the ground,

There is not a horn coming there that comes direct from the wire, that is within three feet from the

(Testimony of Charles O. Poole.)

ground, but these resistances that I explained carry down within about two or three feet of [413] the ground. The resistances leading from the dead side of the gap came within two or three feet of the ground. I should say the left side of the lightning-arrester at Wonder was somewhere about six or seven feet from the ground. This form of lightning-arrester is in common use now. The lines that  
618 they are in common use now are the Pacific Gas and Electric Company, operating in California; the Nevada-California Power Company, in California and Nevada; the Niagara-Lockport line in New York state, using it quite extensively; and I think there are several others that I am not just familiar with at this time; I only know indirectly that they use them. My companies use this kind of lightning-arrester now,—The Pacific Power Company and the Nevada-California Power Company, and the Southern Sierras. The Pacific  
619 Power Company has a horn gap lightning-arrester in Wonder and Fairview, and in Bodie, and I am not certain about Aurora. I don't know positively what was the height of this lightning-arrester at the time of the accident. I don't know approximately how high it was. Judging from the model, assuming that to be correct, it is somewhere near six feet. It is my opinion that six feet is usual and ordinary construction under similar conditions and circumstances. By similar conditions and circumstances I mean, being limited in territory, and limited in height, and general conditions



(Testimony of Charles O. Poole.)

surrounding the entrance to the building—the  
620 limited territory in which to build it and the  
limited height of the wires above. The reason why the switch could not have been set back here ten feet, and a lot more space been used here was on account of the steep hillsides, or something of that character. I think it would have been possible to have made these wires which entered the switch higher. I don't think it would have been just as convenient to make them higher because of the nature and [414] character of the ground.

621 I think I was there in the spring or early in the year 1911. I don't know of any reason why these switch poles could not have been almost any height, if conditions would have warranted it. If the company had desired to put poles there forty feet high, I expect they could have been put in. I didn't know that from the pole next to this there was five feet cut off, and dropped five feet, after this switch was put in.

Mr. GEDNEY.—Q. If that was a fact would that alter your conclusion as to saying whether or not this is an ordinary and usual construction.

622 Mr. CANNON.—Object to it on the ground it assumes a fact not in evidence.

Mr. GEDNEY.—I have a right to assume it; it is a hypothetical question.

The COURT.—I will allow the question.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as

(Testimony of Charles O. Poole.)

A. It would not make any difference in my conclusion.

Mr. GEDNEY.—If it is a fact that that was cut off, that pole was cut off five feet, then there  
623 would be no reason why that five feet could not have been left on that pole, and this switch been made that five feet higher, would there?

Mr. CANNON.—Objected to on the ground it assumes a fact not in evidence, and incompetent, irrelevant and immaterial.

The COURT.—The objection will be overruled.

Mr. CANNON.—We note an exception.

The action of the Court in allowing said question to be asked and answered is here assigned as [415]

**Error No. 44.**

A. It need not have any bearing whatever on the height of the switch.

WITNESS.—(Continuing.) A switch eighteen feet high is usual construction. Switches vary  
624 entirely depending on conditions, they may be four feet, eighteen feet, or twenty-four feet. There is no regular condition governing it. There is no regular condition as to the height of wire poles. It is not the usual construction to use thirty-five foot poles. The length of the pole used depends entirely on the condition and the territory in which they are used.

Mr. GEDNEY.—Q. Now, the fact that an angle is to be avoided in a wire, that would hold good with a ground wire, would it not?

(Testimony of Charles O. Poole.)

A. That is desirable in ground wires.

625 WITNESS.—(Continuing.) A ground wire that has six or seven right angles in it could be considered a good ground. The best construction is to keep as many turns as possible out of your wires. My recollection is that the one at Wonder is constructed the same as this under the wires.

Mr. GEDNEY.—Q. Now, Mr. Poole, you have been instructed that the ground wire came down from this dead side and dropped to the ground; then it went through a trench to the corner of the building, then up to the side of the building, then  
626 to a pole, then to a shaft, and then down a shaft into water; now that would make one angle where it struck the ground; one where it came to the building would be two; one where it came to the top of the building, three; one where it went to the pole, four; and one where it went to the shaft, five; then if it went straight down the shaft there would not be any other angles or turns; now there were five turns in that ground wire, would you consider it a good ground? [416]

A. Yes, it would be all the better in this particular case.

627 WITNESS.—(Continuing.) For the reason we want some resistance in the ground wire. There would be very small resistance if it was in water. If the water was chemically pure, it would depend on what distance the plate was from the ground. If the plate was hanging in the water clear from the ground, there would be some resist-



(Testimony of Charles O. Poole.)

ance in the water, and the further the plate was from the ground, the more resistance there would be.

Mr. GEDNEY.—Q. Now there would be resistance in that wire with all those turns, and in that plate hanging in the water, now state, if a man had  
628 hold of one of these dead arms, and this arced across, would he get burned.

A. The difference between the resistance represented by the man's body and the ground wire, even under those conditions, would be so great that he should not receive any injurious effects from it.

WITNESS.—(Continuing.) If there is a large voltage of electricity jumps this arc, it would always go to the opposite horn. If a man were holding one of these dead horns, I don't believe a man would be hurt with a ground such as is described there.  
629 I would not care to take hold of it; I would not care to take any chances on it—I don't see any necessity for doing it. It would go to the other arm, then naturally go to the ground, and if the resistance on the ground is sufficient that current may be broken up. If the resistance is sufficient, then it would simply be a question as to whether there was some resistance through the man or more resistance through the ground wire. I say this is not a  
630 dangerous place for a man to work. With the description of the ground you have given me, I would say it is safe, and I would have no [417] hesitancy in going on and handling it—I have done such things myself. I said a few minutes ago that I would not on the conditions you spoke of of an arc

(Testimony of Charles O. Poole.)

going across there. If you have a lightning-arrester that condition is what it is there for. If you have a runaway on the power-house, I don't think you would get it. If you get a surge on the line, if it is sufficiently high, you are liable to get it.

631 Mr. GEDNEY.—Q. If you get induction from the clouds, without any lightning, you are liable to get it, aren't you?

A. Well, that would be lightning.

Q. I presume you would call that lightning, yes. Mr. Poole, the only thing with this construction is, that it is necessary to keep a distance between the dead arm, or top of the dead arm, and the wire overhead, isn't it? A. No.

Q. What other point is necessary to be considered in building one of these?

A. The arrester is put in there for the protection of the apparatus in the substation; and  
632 the more directly and closely it can be connected to the wires entering the building, the more protection it affords.

WITNESS.—(Continuing.) If both the live and dead side of this lightning-arrester had been placed four feet higher, right where it was, it would have brought the horns up so close to the wires above, three would have been danger of short circuiting, between the adjacent wires. The theory of the arrester is that the arc will travel naturally by  
633 the heated air, and so forth, fly up, and blow out near the tops of the horns; if they are not a certain distance below them. The arc will blow

(Testimony of Charles O. Poole.)

up into the wires, and possibly the wind might hook them across to adjacent wires, which would represent what we call a short circuit on the system, and might cause a great deal of damage to the apparatus in or out of the station. That could be avoided to some extent by the high tension wires above [418] being put farther apart. There is danger of the arc forming or getting between the high wire and  
634 the dead arm right below it. That is not the only thing that has to be avoided. The other must be avoided too. If the switch post had been ten feet higher, this lightning-arrester could not have been put ten feet higher. The other connection must be taken into consideration as well as the dead side of the arrester. I mean that would be too close to the other wire. If the wires were put farther apart it would help it some. Any one coming in contact with one of these live wires on the live side of this lightning-arrester would always be in danger just  
635 the same as they would with the wires on the poles. It would depend on how close he came to it whether he would be in danger. The ordinary distance that he could come to it would be between one and two inches. The voltage impressed there, would naturally jump through air to a good conductor; a man, though, could come closer than that; I should say come within an inch of it. If he were covered with perspiration, I don't think that would make any material difference. If the skin is  
636 wet, it removes that resistance to some extent, it varies. If there was enough lightning to



(Testimony of Charles O. Poole.)

jump across four and a quarter inches, a man would have to be closer than that distance when he would get that charge instead of it going across the gap. I should say that he would have to be an inch closer. If he were within three and a quarter inches from it, he might get the shock then. The skin has the same resistance to sixty thousand volts that it has to ten volts. The higher voltage cuts it down and goes through it where a smaller current would not.

637 I gave directions to put the arresters in at Fairview and Wonder. I did not specify the height of them; I didn't know the exact conditions at that time. I didn't furnish any plans for these lightning-arresters. [419]

Redirect Examination by Mr. CANNON.

It is quite common for linemen to construct other lines on the same poles with high-tension wires of varying distance, from eight feet to four feet, and even as close as three feet, carrying additional wires on underneath the high-tension lines, and it is quite common practice for them  
638 to work at that distance away from these high-tension wires. It is common practice for linemen to do that work. It is common practice for linemen to handle live wires. It is common practice to handle live wires, twenty-two hundred and sixty-six hundred, which are common voltages; I have seen linemen handle fifteen thousand volts. The Pacific Gas and Electric Company is a large institution. It has a great many counties in the State of California which it serves. There is one angle

(Testimony of Charles O. Poole.)

here, between this high-tension wire and the live  
wire, coming down on the lightning-arrester,  
639 in the event of lightning coming it has the ob-  
jection of any sharp angle, but it could not  
very well be avoided in this case. I have met Mr.  
Sheaff. I met him recently over in Mono County;  
before that I met him at Bodie and Hawthorne, and  
before that I met him in Inyo County. I met him  
before the accident. I knew him in 1907 or 1908, I  
think. I met him on Bishop Creek where he was  
working for me, or for the Company. At that  
640 time he was working under me as an engineer,  
on a stationary engine, a donkey engine; he  
was working on dam construction at that time. My  
recollection is that he helped to put up an electric  
generator and stationary engine. I was there and  
know that of my own knowledge. I was there at  
the time.

Recross-examination by Mr. GEDNEY.

I spoke of the linemen working upon poles within  
four feet of high-tension wires, and I consider that  
a safe distance. Four feet away from a man is a  
safe distance for high tension wires. If four feet  
on a pole is a safe distance, I think [420]  
641 four feet on the ground would be an equiva-  
lent; but the reason—the principal reason—  
for putting wires that far away, is so that one wire  
will not come in contact with another; to give them  
sufficient clearance in wind storms, and things of that  
kind. I think the last time I shook hands with him

(Testimony of Charles O. Poole.)

was in Hawthorne; the last time I saw him before this accident. I heard good reports from him occasionally from our workmen that he was working under, from our foreman, and so forth.

[**Testimony of W. V. Pittman, for Defendant.**]

642 Mr. W. V. PITTMAN, produced as a witness on behalf of the Defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

I am an electrician. I know the plaintiff in this action. I met him in Wonder, Nevada, the day before the accident, at 10:45 that night. I introduced myself. I went over there to take charge of the substation at Wonder. When I saw Mr. Sheaff, I was looking for Mr. Halpenny. The boys told me to look for the biggest man in town, and that would be Mr.

Sheaff; and I looked around the crowd at the  
643 postoffice, and I saw what I thought was the largest man there, and the tallest man, and I picked on him, and it happened to be Mr. Sheaff. I met him about eight days after that at Fallon, Nevada. I went from Wonder to Fallon. I was sick and looking for a doctor, and I got hold of the same Doctor that was attending Mr. Sheaff, and he says, "Come along, I am going to attend Mr. Sheaff."

I went down with the Doctor and was in the same room with Mr. Sheaff. In that interview I  
644 had a conversation with Mr. Sheaff about his accident. I asked him in regard to the accident; I says, "My God, Bill, didn't you know there



(Testimony of W. V. Pittman.)

was enough stuff there to kill a regiment? How did you get into that stuff?" and he says, "I must have forgot." When I had that conversation with him, I think I was standing up; I laid down when I [421] first went into the room—I know I was standing up. I remained in the room a short time.

Cross-examination by Mr. GEDNEY.

I had just met him once that night at Wonder, and the next time I saw him I addressed  
645 his as "Bill." It is customary amongst line-men to call them by abbreviation or nickname—Bill, or whatever it happens to be; I have met men and been called "Slats," that is my nickname; I have met them only once, and been introduced by my proper name. I have heard him called Bill at various places. I have heard him called Bill Sheaff, who was the tallest man in town. I don't know what his initials are. I was working for the Pacific Power  
Company. I have been working, the particular  
646 lar name is Jordan or Mono Lake, at the power-house near Mono Lake.

[Testimony of Dr. Sidney K. Morrison, for Defendant.]

Dr. SIDNEY K. MORRISON, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

I am a physician and surgeon authorized to practice my profession in this State. I have been a physician and surgeon since April, 1902. I am a graduate of Cooper Medical College, San Francisco. My

(Testimony of Dr. Sidney K. Morrison.)

office is now located in Reno, Nevada. I am one of the members of the State Board of Medical Examiners. I have been County Physician of  
647 Washoe County for eight years. That duty requires me to attend to patients in the county hospitals. I am surgeon for the N. C. O. Railroad; assistant surgeon for the S. P. Railroad Company. I have been with the S. P. four years, I think; and the N. C. O. for five or six years. I have had occasion during the course of my practice, covering the last eleven years or so, to perform many operations. I took a month's graduate course in Boston, Massachusetts, at the Harvard Medical School, in 1906; and since [422] then I have spent considerable  
648 time, say a week at a time, averaging twice a year, in San Francisco, at the Lane Hospital; and of course keeping up my journal work and periodicals. I have met Mr. Sheaff, the plaintiff in this action. I met him a week ago Sunday in Reno. I, at that time, made a physical examination of him with respect to his injuries. I was also in the courtroom when Doctor Gardner was testifying, and when the plaintiff himself was testifying, when his injuries were open to view. I made no examination with respect to the scars and evidences of  
649 burns around his shoulders and back, except inspection as to the size and palpation, to see if they were adhered to any deeper structures. I found that the motion was not limited by these scars, and they did not seem to be adhered to the deeper structures. A deep scar will adhere, as a rule, if

(Testimony of Dr. Sidney K. Morrison.)

there is any destruction of tissue. I did not find any adherence there at all to the deeper structure. I at that time examined his feet. I am acquainted with the practice in surgery known as tendon-splicing. I

am acquainted with literature on the subject,  
650 and have had some experience. The first his-

tory of tendon-splicing started in 1880, by an Italian; but has been practiced since 1902 successfully by Doctors Mayo and Murphy, and by an English surgeon, I have forgotten his name; and to my knowledge by Doctor—at the Children's Hospital in San Francisco—Doctor Sherman he has been doing considerable tendon-splicing. That is recognized surgery. It is a proper method of surgery and followed by success. If you wish to splice the tendon Achilles, as represented in your diagram, these

two diagrams that still remain on the board,  
651 are the best means adopted. I examined the

tendon Achilles on the right foot of the plaintiff here for the purpose of determining whether or not a successful surgical operation could be performed on that tendon. My opinion is it [423]

is a very simple matter to lengthen the tendon,—a very simple operation. If that was all there was to it; if you lengthen it by this method, you would want to begin using motion right away; they used to keep

them in casts for six months, but the surgeons  
652 nowadays keep them in not longer than a week, and being forced motion even after a week.

To have a tendon of that kind lengthened, and for it to grow together and be usable will take some time;



(Testimony of Dr. Sidney K. Morrison.)

but you would sew these ends together with unabsorbable silk, and of course the silk takes the pressure away from the ends that are healing, and you go on with your motion while the tendon is healing.

Mr. CANNON.—Q. With respect to these rough ends or corners that appear where the splicing took place (referring to diagram on board), what, if anything, does nature do with regard to these?

653 A. Nature takes care of those absolutely.

WITNESS.—(Continuing.) I should think the tendon so spliced would become as strong as the other one. The records show that it gives a perfect functional result. By “perfect functional result,” I mean it does the service just as good as if it had never been damaged, or never been cut; the function that it serves is perfect. I think this operation could be successfully performed upon the foot of the plaintiff in this action. If it is the tendon Achilles that

is holding the heel up, why, lengthening it  
654 is going to let the heel right down. I know

of the surgical operation on interference called skin-grafting, and the placing of tissue from one part of the body to another. That is recognized surgery. It is practiced successfully. As to what could be done with that foot, and how it could be done,—the first thing, I would examine him under an anaesthetic; of course the examination I made was a rebellious witness, in a way, you know; he complained of [424] pain when you would almost

look at him. I would put him under an an-  
655 aesthetic, and find out what is binding the foot in this position. He has what we call a

(Testimony of Dr. Sidney K. Morrison.)

talipes equinas varus, with the foot in this position. Now the thing to do is to find out what is holding it there, and relieve the constriction. If it is the tendon Achilles, if you want to, you can simply cut it off within the sheath, and let it grow together—we do that with children all the time. It will grow together without splicing. We cut these tendons, and place the foot in an unconstricted position; we do

that on children all the time. Those are the  
656 muscles on the inside; that pass down through  
in the flexor tendons; then get your foot in  
the proper position, and over-correct it, and put it  
at rest. If this foot is drawn in this way (illustrating on foot of plaintiff), you would want to put it up, in the position of over-correction. The next step would be that when this constriction is relieved, and the tendon heals, the foot will be in normal condition; not paying any attention to these tendons, because nature takes care of an awful lot of damage,  
and an awful lot of destruction, and what not.

657 Then with his foot down normally, and with  
the appliances that you could remove, I would use massage, and work on the foot. Another thing, if that scar across the bottom of the foot is so deep and so firm as it appears to be, that it is drawing the foot right up in a knot, and these bones simply come together, you would have to dissect the scar out carefully, and transplant a thick flat from some other part of his body into that place. The best thing

(Testimony of Dr. Sidney K. Morrison.)

to do is to take a sound limb—for instance,  
658 he has a good limb here (illustrating on person  
of plaintiff); while it is still attached to the  
leg, stitch it here, and let him hold that there for a  
week, with strips of plaster of paris, and then you  
can cut it off this way (illustrating); and then she  
is growing here—but of [425] course you have  
got to be free from infection. You have to have ab-  
solute sterility, and the best hospital accommoda-  
tions you can get, one that you can depend upon.  
That kind of surgery should be done by a man that  
is doing that kind of work; by a specialist,  
659 an orthopedic surgeon, or plastic surgeon, do-  
ing it in the hospital where he is in the habit  
of working. The tendons holding the toes and run-  
ning on up are called the flexor tendons.

Mr. CANNON.—Q. Those are the same tendons  
that Doctor Gardner the other day called the ex-  
tensor tendons?

A. He just got them twisted.

Q. When they are ruptured, what is the process?

A. Well, if you have a gap that you want to bridge  
over, if you have healthy tissue to bridge through,  
you can do that. For instance, it has been  
660 experimented by Doctor Mayo doing some  
work along that line; they use dogs for it;  
take four inches of the tendon Achilles out of the  
dog, and run threads of silk from one end to the  
other, and close it up; and in six months to a year's  
time, that tendon which has grown in where that  
string was has been examined, and you would not



(Testimony of Dr. Sidney K. Morrison.)

be able to tell the difference between that and real tendon tissues. Of course, this is all work for specialists, and it is something I would not attempt, but I am just telling what literature says  
661 about this tendon work. They are certainly doing wonderful things in this tendon work. The thing to me in that foot is to get it straightened out; relieve this tension which causes his pain; get that foot straightened out, and then see what you can do with it.

Q. In this talipes equinas you speak of, Doctor, what means should be adopted to avoid that, in the case of acquired talipes equinas, by the physician attending a patient, if it either comes from paralysis or from an injury, or what not, as [426] a  
662 physician observes it; what is the proper course of treatment to avoid it and correct it?

A. Well, if you have a large destructive wound, that is, a wound that has destroyed all this planter tissue, and knowing these things are gone, if you are unable to keep that foot from contracting up into a shape like this, you might as well cut it off in the first place, and save this man the suffering, because this is an absolutely valueless foot the way it is; and if you cannot promise your patient any re-  
663 lief from it, what is the use of waiting? If you can, clear up this sloughing mass—it is a terrible condition to treat, and I clear them up with—I digest that stuff out with pepsin and pancreatin; it is stuff we have in the stomach and intestines; and I use lots of this pepsin and pancreatin,

(Testimony of Dr. Sidney K. Morrison.)

and it digests the dead tissue and does not hurt the living; it digests this dead tissue, and relieves the living; and then you can clean it up, and after cleaning it up, see what destruction you have had, and  
664 keep your tendons clean from scar; if you don't, it is going to twist up in a knot.

WITNESS.—(Continuing.) You can dissect those tendons up—it is hard. It would not be possible to do anything with the tendons while the sloughing process was going on. You could not touch them. After the sloughing process is completed and healthy granulations appear, the granulated tissue would be so soft, you could over-correct your foot, even while the scar tissue was forming; and if you can, get a healthy flap to interpose on top of these healthy granulations, to prevent the skin  
665 facia contraction. I would not bother with tendons in that case. In this case he has got the flexed toes; and if this muscle here was badly injured, or caught in the scar, that would draw up; the first thing it would do, would be to draw those toes up into a hammer toe, like he has on the opposite [427] foot. Now his toes are straight, and yet the toes from here down (illustrating on foot of plaintiff) are contracted, because it is painful for him to move the foot, and he has drawn it up; that  
666 could be relieved by getting the foot down flat. In my opinion, the foot can be greatly relieved, and get a good serviceable foot, if the work was done properly, under favorable conditions. Talipes equinas can ordinarily be prevented

(Testimony of Dr. Sidney K. Morrison.)

as it is coming on, by such proper surgical treatment as I have suggested. If you notice this tendon of Achilles is pulling the foot back, why relieve it. That would help to prevent the formation of this talipes equinas; you would have to prevent this scar tissue from contracting, and this tendon Achilles from drawing up. In cases of congenital club feet, surgery can cure that; but they don't bother  
667 with splicing them; they simply cut the tendon under an anaesthetic, bind the foot in this position (illustrating), and put it in a plaster cast, with the over-corrected position. Nature fills those cut tendons out, heals them up itself. Those tendons are perfectly good afterwards. I examined the left foot; he has got hammer toes—the knuckles bent up. There not being any scars on the bottom of that foot to draw down the facia and the tendons, it must be caused by injury to the toes from some direct heat or fire, or what not, at the sides  
668 of the toes, drawing them up. The scar was on the anterior surface of the left foot, as I remember. There was nothing in the scars or contraction in the foot to show the reason for the pulling up of that foot; that must be in the toe itself.

Mr. CANNON.—Q. State, Doctor, what other surgical process can be used at times and under certain proper conditions, to transplant, so to speak, tendon from one part of a leg or ankle, into another; or to take one tendon, or part of it, which is performing one office, and transfer it to another  
669 [428] part of a foot, to perform another office.



(Testimony of Dr. Sidney K. Morrison.)

A. It has been brought into vogue on account of this infantile paralysis, where a certain set of muscles becomes paralyzed. If you had, for instance, the extensor muscles on the leg paralyzed, then the flexor muscles would overact, and give you just exactly what that man has got, talipes equinas varus. Here you are treating with dead muscles on this side (showing) and live muscles on this side; if they take a tendon from one of these live muscles, pass it across the leg there, and attach it to  
670 the tendon of one of the dead muscles, or all of them, when healed, you get this muscle doing this muscle's work.

Q. How does that operate?

A. It has been very successful, under expert hands, of course. Those are operations done by experts.

Q. Now, Doctor, take the case of the plaintiff in this action, as you have observed his present condition, and in connection with the testimony which you heard given by Doctor Gardner as to his injuries and the course of his treatment, and the course of his convalescence, so to speak; state whether  
671 or not in your opinion that foot could have been brought about so as to make it a good workable foot; I don't mean perfect, like it was before, but so as to make it useable.

A. It is my opinion it can be made into a useful foot.

Q. In other words, by using the processes you have described in the treatment, and in the sloughing, and

(Testimony of Dr. Sidney K. Morrison.)

in looking out for the tendons, and in keeping the tendons from coming in with the scar tissue, and keeping the scar tissue from getting hold of the foot, and pulling it out of shape; what, in your opinion, if  
672 all those things had been done at that time, would be the present condition of the foot?

A. Well, that is pretty hard to tell. The doctor may [429] have been up against difficulties which we cannot foresee; of course we know that he had a terrific sloughing dead wound, and there is no question but what he had a lot of trouble cleaning it up; but it seems to me if I had noticed six weeks after the injury, with a big hole like that worn in the foot, that the tendon Achilles was pulling up, I would have tried to keep that foot straight. It is  
673 a cinch if that scar tissue is allowed to form in there, you are going to have just a knot for a foot.

Q. Taking the condition of the plaintiff's foot as you have observed it yourself, in connection with the testimony you heard given by Doctor Gardner as to the character of the injuries and the course of treatment, and all about it in that connection, state what, in your opinion, would be the effect of proper surgical interference at this time.

A. Oh, he could get relief, and I think a  
674 fairly serviceable foot, and possibly better than that; but of course we have to guard ourselves in these prognoses; he ought to have a fairly serviceable foot, properly treated.

(Testimony of Dr. Sidney K. Morrison.)

Cross-examination by Mr. GEDNEY.

If Mr. Sheaff came to me now and told me to do the best thing I could with that foot, I would examine it under an anaesthetic, and find the tension, and try to get that foot in a normal position. I would cut the scar tissue in multiple places, if I had to cut the tendons out—I would try to get  
675 that foot down; it is no good to him up there, is it? After I looked at it about two minutes, I don't think I would say, "I will cut that foot off." I would not take the foot off. The way he is now he is permanently injured. You certainly cannot give him a foot as good as it was before; that is absolutely impossible. I have not done these things I know they can be done, only from what I read. We depend on that [430] from the men that write on the subjects. I am giving my opinion on what  
676 other people have said might be done and applying it to this case. That is the only way we doctors learn. I felt of that foot, it is cold.

Mr. GEDNEY.—Q. How are you going to graft blood vessels in that?

A. We are not going to graft blood vessels.

Q. How are you going to get that foot better then?

A. We have two sets of arteries, one posterior tibial, coming along the scar, passing along the bottom of the foot, and spreading out; whether that is injured or not, I don't know. We have the  
677 anterior tibial, coming from the same artery, that comes down, ending in the front of the foot, and makes what we call an arch; and the lower



(Testimony of Dr. Sidney K. Morrison.)

one comes along and makes an arch; and these both send in vessels to one another, what we call anastomosis. We very often ligate this artery, or this one—for instance, take a big cut, where you could not control the bleeding, and were not afraid of our foot sloughing off; nature has so many ways of interlocking its vessels. That takes time, and you would have a cold foot for a while. Another thing you  
678 have here, you have scar tissue which has contracted down, until it has contracted all the vessels out of it, and probably all the nerves, so you have only scar tissue, and always do have it.

WITNESS.—(Continuing.) Nature could not do any more than heal up this hole; that is all. Of course, the blood vessels of the area scarred over are injured. There cannot be any blood vessels there.

Mr. GEDNEY.—Q. In order to put that foot back in a normal position, you would have to put in blood vessels, wouldn't you? A. They grow. [431]

(Witness continuing.) If you put healthy  
679 flesh in there, they would grow. It is possible to do that. You can put flesh in there—a flap—easy enough. That is, you cannot depend on skin grafts in a hole like that; or pieces around this leg put in there; but you could, for instance, take this healthy leg here, and cut up, say a flap that long (illustrating); where you have taken it up, bring it together, because it is loose skin, and you can cover a gap that wide (illustrating); leave that still attached, so this flap is getting its  
680 blood from this leg, then you can sew this up, and sew it to the bottom of that foot,—

(Testimony of Dr. Sidney K. Morrison.)

sew the foot on there, or sew the flap on the foot. I have done things of that kind. If you don't get any infection, it will be successful. You have to be awfully careful of infection. I would cut out all scar tissue. The planter fascia is gone on this foot. You can get along without planter fascia. The planter fascia is a sinew from the heel to the toes. The planter fascia is not what holds that foot up there. Every bone has tendon fascia around it, each bone, that is stronger than the bone, the bone will go before that will; the planter fascia is just a thin sheet, just the same as we have in the palm, that radiates and goes out the different fingers, and it is what will get injured with a carpenter or a miner in using a hammer; in that case we have what we call a hammer finger—just draws it up. There are not any hammer fingers or toes there. That doesn't show that all those tendons are gone. If they were gone you would have that scar tissue going right down to your toes. Planter fascia does not hold the arch up. The tendons that join the bones of the foot all around the bone held the arch up. It is pretty hard to think that those tendons are gone, because those joints would all be open; it may be possible they are gone. I could not tell from my examination whether or not the tendons were [432] all burned out up to the bone. In my conclusions as to remedying this foot, I have not presumed that those tendons were there. I was not going to figure on any work on the sole of the foot with the tendons,

(Testimony of Dr. Sidney K. Morrison.)

except to free them, if there were any constrictions or adhesions to scar tissue; by taking out all the scar tissue you would know whether you had tendons or not—just relieve the foot. If, under an anaesthetic, I found the tendons were all gone, I would not conclude it was a hopeless case. I would try to put that foot in normal position, and see what result we got.

I would not try putting those tendons in.

684 Mr GEDNEY.—Q. If those tendons are all gone on the bottom of the foot, what are you going to do?

A. Well, the best amputation for one that has not lost any flap here—if we can get a flap—is to leave the heel on. Now, supposing you had no tendons from here down (illustrating on foot of plaintiff), and we had a flat foot, he would have just as good an amputation; he would have a heel to walk on, and with some support, if he had his foot all gone.

685 In an amputation of that kind, if you have no foot at all, you can put on an appliance, and you would never know a man had a wooden foot.

Q. If you had a heel?

A. Yes; and I like an amputation of that kind, because you never have to put on the artificial appliance to go to the toilet at night; and you have great inconvenience with artificial limbs.

WITNESS.—(Continuing.) I would not take off this foot up to the instep. You were asking about the tendons, if they were gone would you take the foot off, and I would say no; he has the ex-  
686 tensors, and he has that motion, that walking motion. If he had not the flexors on the



(Testimony of Dr. Sidney K. Morrison.)

bottom he could walk if you [433] have enough scar tissue there to keep it down. If you put any weight on this foot right now, he would simply break down that instep that is drawn up there by that scar tissue, and break that foot open; that is what would happen. I did not examine the witness to find out whether the tendon Achilles was drawn up. The

witness was a rebellious one who complained  
687 of the pain. When I was examining him, I

had him work that joint at the ankle. I did not notice the perspiration stand out on his face while I was doing that. He complained of pain, not when I was examining him, but when the other Doctor examined him he complained of pain then. I will agree with you it is painful. If you remove your scar tissue, you are not going to break that foot open, if you put any weight on it. I would remove

the scar tissue all I could. Then I would put  
688 back in there a piece of the other leg, which is skin and tissue. I would not attempt to put

back the tendons if they are gone. You would then have nothing there but a mere piece of flesh with bones above it. You see the framework is the bone, that holds the foot up there. The bones themselves hold the foot up there; muscles and tendons are simply for motion. If there wasn't anything around the bones at all, the arch would not necessarily break down. You could obviate it in a minute by wearing

a flat sole insole. If your nerves have been  
689 destroyed, you won't have any pain. It is in your own testimony that your foot had no feel-

(Testimony of Dr. Sidney K. Morrison.)

ing. You have no sensation here (showing), only in the heel. I think it will be possible to get away from that pain. That man will suffer less if that contraction is relieved, then he is suffering now with the foot all bound up in a knot. If the tendon Achilles is causing the contraction, one of the heels is pulled above the other.

Mr. GEDNEY.—And if it is the tendon Achilles that is pulling one of the heels above the other, he could stand [434] and straighten his leg  
690 with his toes on the floor, couldn't he?

A. No, this contraction—you see this muscle that goes in the tendon Achilles is connected up here on the femur; that draws his knee up, and the heel, too, so if the tendon Achilles is relieved that knee would straighten out, and let the heel straighten out.

WITNESS.—(Continuing.) Apparently, he has no trouble in straightening his knee out. His knee is all right, as far as I know.

Mr. GEDNEY.—Q. Now if he stands and pulls that heel up, his leg would still be straight?

691 A. This way, you mean (illustrating)?

Q. Yes. You are bending your knee hold it straight.

A. That is a very awkward position (illustrating)—try it.

Q. If this man stands with his both heels—

A. (Intg.) Here is the natural way to stand (illustrates);

Q. But if this man stands with both heels the same

(Testimony of Dr. Sidney K. Morrison.)

length it is not the tendon of Achilles that is drawn up, is it?

A. The heel is the same way. I don't understand.

Q. Suppose you measured both his legs straight out, and the heels came to the same length?

A. You mean this way (illustrating)?

692 Q. Yes, that way.

A. Well, now, the natural position, you see, is this (illustrates); you can put your foot in any position, as long as your knees are straight the tendon of Achilles is not going to shorten.

Q. Try it with one foot straight and the other one that way; you have one heel up past the other one, haven't you? [435]

A. Let's get it straight and see, that is an experiment; (placing feet in position indicated); yes, you bring that heel back; of course; but it would not influence the length of the leg, simply contracting the muscles.

693 Q. Suppose Mr. Sheaff's heels are level here, and this foot is still down, what will it show you?

A. It would not look like the tendon Achilles was pulling that up.

Q. And that is the fact in this case, isn't it?

A. I don't know.

Q. How do you account for one foot being half an inch shorter than the other one in this case.

A. Because it is drawn up in a knot; it is pulled right up in a knot.

WITNESS.—(Continuing.) With nerves gone,



(Testimony of Dr. Sidney K. Morrison.)

planter facia gone, blood vessels gone, and the  
694 tendons gone off of the bottom of that foot, I  
would keep that foot on. This would be done  
under an anaesthetic. If it is tendon work, he would  
be advised to use that leg in a week. With his left  
foot, he has two toes missing, and little work on those  
hammer toes. Those hammer toes can be  
straightened out. They would have to be cut across  
the bottom, that is all.

Mr. GEDNEY.—Q. In this operation, Doctor, ex-  
cluding the consideration of cost, and worry, and  
pain, there is always the danger of blood poisoning,  
isn't there, which ends in death?

695 A. Oh, blood poisoning nowadays is pretty  
rare in surgical work.

Q. Pretty rare? A. Yes.

Q. But there is a possibility of it?

A. You take that chance, I suppose, one in a mil-  
lion, or something like that. [436]

Q. Only one in a million?

A. Oh, in cases where you are working with this  
condition you won't get any poison that is going to  
run up the leg; you might get infection, that is the  
worst you would get, apparently.

Q. Doctor Gardner or any other doctor,  
696 could not have done that while the healing  
process was going on there?

A. All he could do was to try to prevent contrac-  
tion.

Q. It would have been too risky to try to do any-  
thing with the tendon Achilles or anything else at

(Testimony of Dr. Sidney K. Morrison.)

that time, on account of infection?

A. The tendon of Achilles could have been lengthened or cut by what we call a subcuticular incision, without any danger of infection; that was done before antisepsis was known.

Q. Well, considering that right here is a sloughing mass, would you cut in within an inch or an inch and a half, in this tendon of Achilles, while  
697 this sloughing mass was going on?

A. Of course, it would not be wise to do it if you had your sloughing mass active; if you hadn't cleaned it up. I don't know what means that Doctor used in cleaning this sloughing up; it is usually done by digesting it, or by using picric acid, you get pretty close to the infected area, if you are careful; in this operation of cutting a tendon, one incision is made with a tenotomy, or a little pointed knife, just large enough to get into this hole, and saw  
off your tendon, pull it out from the same hole,  
698 and plug it up.

WITNESS.—(Continuing.) I think after that sloughing mass was cleaned up, it should have been done if that tendon is the thing that is doing the damage. After three months when this was cleaned up is a good time to do it. [437]

Redirect Examination by Mr. CANNON.

I think so far as I can tell from my examination, the bony structure of that foot is all right except contracted up. I would not leave that foot as it is. It  
is no good to him now. I would not give up  
699 that case as hopeless.

(Testimony of Dr. Sidney K. Morrison.)

Recross-examination by Mr. GEDNEY.

Mr. GEDNEY.—Q. If you had plenty of money to work on him with?

A. No, if he would go to the County Hospital I would work on him.

**[Testimony of W. N. Chatfield, for Defendant.]**

Mr. W. N. CHATFIELD, a witness produced on behalf of the defendant, being first duly sworn, testified as follows:

Direct Examination by Mr. CANNON.

I am Assistant Secretary-Treasurer of the Pacific Power Company. I met Mr. Sheaff, the plaintiff in this action, at Fallon, September eighteenth, 1911.

The head office of the Pacific Power Company  
700 is at Bodie, near the Nevada line, in California. The Pacific Power Company lines go through Bodie, and furnish very little power, and Aurora the same. Bodie is furnished only for a few lights, and the same at Aurora; and Lucky Boy is furnished a few lights, and a little power; and over at the other end of the line from Lucky Boy there was no power furnished until it got to Fairview, which furnished the Mining Company only; and then furnished the Mining Company only, at Wonder. There were no cities or towns along that  
701 route that they furnished. What they furnished would depend on those mines working entirely. The power plant of the five is located in what is called Jordan, near Mono Lake. They have two fifteen hundred K. W. Allis-Chalmers generators. That is the total capacity of the plant. I



(Testimony of W. N. Chatfield.)

called upon Mr. Sheaff September eighteenth, at the Grand Hotel at Fallon. [438] I went to his room. I had a conversation with him at that time. We talked regarding the accident, and how he had been injured, and I asked him how he supposed he  
702 got it, and as near as I can remember—and I tried to remember this one thing especially—he said, “Of course I don’t know, but I suppose I wanted something in the substation, and without thinking, walked into the hot side,” or into the “hot wire.” That is in substance what he said to me about how the accident happened. When I went over there I found out that he claimed that he had no money, and he seemed to be much worried about his finances, and so I asked him about arrangements that he could make with the company. At the power-house at Jordan, I kept a daily record,  
703 taking the readings from the various meters. Those readings were taken every thirty minutes. I have, at your request, and at the request of counsel on the other side, those readings from Bodie since this trial has gone on. I believe I got those readings last night. I telephoned the night that counsel requested them, but they were out at the power plant, which is quite a ways from Bodie, and there was no means of communicating on Sunday, which was the next day, so it came in Monday, and was mailed Tuesday, and it takes two days to  
704 get up here, two or three days, I think it was, in that case.

Mr. CANNON.—Q. This is the record of the

(Testimony of W. N. Chatfield.)

Pacific Power Company, and the readings for the twenty-four hours ending eight A. M. Wednesday, July 18th, 1911?

Q. That would take from eight o'clock of the morning of the 18th? A. It would.

Q. That would take from eight o'clock of the morning of the 18th?

Q. Do you know these signatures to this sheet? (Showing to witness.) A. I do. [439]

Q. Whose signatures are they?

705 A. The signatures of the operators on shift at the various times during the day.

Q. Does this also state the weather conditions on that day? A. It does.

(Paper handed to counsel for plaintiff for examination.)

Q. What does this "bus bar" mean?

A. The bus bar voltage.

Q. Now will you take this sheet, Mr. Chatfield, and give us from eight o'clock A. M. down to noon, and that day will be enough, probably, the half hour readings of the voltage for that day?

A. The readings of bus bar voltage are 105,  
706 all through the day, each half hour, until one-thirty, or until two o'clock.

Q. At any of those half hour readings does the sheet show there was any variation in the voltage?

A. There is none.

Q. Now look at the remarks on the opposite side, at ten-forty what memorandum do you find there?

A. Under "Remarks" covering the general opera-

(Testimony of W. N. Chatfield.)

tions for the day: "10:48 A. short on high line station down, 10:52, machine up on line, tested O. K., station normal. Trouble caused by man at Wonder getting into juice on arrester."

707 Q. Then at 10:48, the short mentioned there as occurring at 10:48, in connection with the man getting in the juice of the arrester at Wonder, is the only variation shown on the entire sheet, is it?

A. That is the only thing out of a perfectly normal day; no shut-down, or anything.

Q. What does it show about weather conditions on that day? A. Weather clear.

Q. By the way, this 105 that you read, in order to [440] get the true high voltage would require a calculation?

A. Yes, the ratio of the various transformers, where it is transmitted.

708 Q. Then all that could be told so far as the voltage is concerned, from this paper, is that it did not vary; that it was at the same standard all day long? A. Yes.

Cross-examination by Mr. CURLER.

That does not mean there was only 105 volts pressure on the line. I don't know just the exact ratio of the transformers; it was practically the regular voltage, fifty-five thousand. I did not go to see Mr. Sheaff when I first arrived in Fallon. I think I first arrived in Fallon approximately around seven  
709 o'clock in the morning. I was around there with Mr. Sheaff until about half past eleven, and then I was there about from probably one-thirty



(Testimony of W. N. Chatfield.)

to three-thirty. I don't know whether it was eight o'clock, probably nine o'clock, somewhere about that time. At half past eleven, I went away to my lunch, and walked around the town for a while to see the town, and after that walked back to Mr. Sheaff's room and stayed there until within half an hour of train time. I believe the train went out somewhere

around four o'clock. At that time I had a  
710 conversation with Mr. Sheaff respecting how  
he was hurt. I believe that conversation took place in the morning. It might have been about thirty minutes, or it might have been one hour and thirty minutes after I was with Mr. Sheaff when that conversation took place. I talked with Mr. Sheaff about a great many various subjects. He knew some people I knew and he talked to me about them—the Farringtons. He talked about being out there, and about the one they call “Old Arch” Farrington, and he called him “Uncle Arch,” and what a fine  
old man he was, and talked about the boys out  
711 there. [441] I asked him how he supposed  
he ever got hurt, and then he replied substantially as I answered in the direct.

Mr. CURLER.—Q. I understood you to say that you thought he replied.

A. Those were the words, as near as my memory can go.

Q. Now are you sure, Mr. Chatfield, that he said that he did not know?

A. He said, as near as I can remember, I don't know.

(Testimony of W. N. Chatfield.)

Q. He said he didn't know how he got hurt?

A. That is as near as I can remember, that  
712 those were his words.

Q. Are you sure that he said that he was going to the substation for something?

A. He said that he was going to the substation or the other side of the arrester; that is, as I remember, he said he was going to the substation.

Q. You say now that he either said he was going to the substation, or along the side of the arrester, which was it?

Q. It was that he was going—he said going toward the substation; either said “going to the substation” or “going toward the substation.”

713 Q. Then he didn't say that he was going to the substation for something, is that right?

A. He was going toward the substation for something, or going to the substation for something.

Q. Well then, was the whole of the conversation, “I must have been going to,” or “toward the substation for something”; was that the whole of it.

A. No, it was not.

Q. Well then, what did he say next? [442]

A. “And without thinking walked into the hot side” or “hot fire,” whichever it was.

Q. Did he say “and without thinking I walked into the hot side”?

714 A. As I said at first either “hot side” or “hot wire,” it is the same thing.

WITNESS.—(Continuing.) I would not swear whether he said “hot side” or “hot wire.” That

(Testimony of W. N. Chatfield.)

was before I gave him a fifty-dollar check. I gave him a fifty-dollar check, I think in the afternoon. I also took Mr. Sheaff some cigars and some grapes. I believe I had the cigars with me when I went there. I am pretty sure I did; I got them at the slot machine the night before. In the afternoon I brought him some grapes, I think when I came from lunch;

715 I think that was the time when I came from lunch, I am not exactly positive. I came all the way from Bodie just to see Mr. Sheaff and to see how he was getting along. It was not my purpose when I first went there to try and get a compromise with him; I went over to see him, to see how conditions were. When I went over there, I didn't know exactly just what I would do. I intended if the circumstances warranted it, to get a compromise  
716 if I could. That was one of my purposes in going over to see him, and see the general conditions. It was not my main purpose. My main purpose was to see that he was not suffering from lack of anything that was needed in his condition.

Redirect examination by Mr. CANNON.

Other things that were in my mind were to see if he were receiving proper care and attention. He seemed at that time to be satisfied with his treatment. I don't believe I made any suggestions to him at that time respecting his treatment. I gave him  
717 the money some time in the afternoon. He gave me a receipt for that money, but aside from the mere receipt he gave [443] me nothing. I had a subsequent conversation with Mr. Sheaff a



(Testimony of W. N. Chatfield.)

couple of weeks after that in Fallon. I at that time had a conversation with him in respect to his care. I talked with him regarding the advisability of going to San Francisco or Los Angeles, where he could receive better medical attention. I offered that we would take him down to the city, put him in any good hospital, where he could receive proper medical attention. He said he was perfectly satisfied where he was.

718

Recross-examination by Mr. CURLER.

Nothing was said at that time about a release. That was October 3d, 1911. I am very positive of that. I made a subsequent visit to him January 12th, 1912.

Defendant thereupon rested.

[Testimony of Mrs. V. L. Adams, for Plaintiff.]

Mrs. V. L. ADAMS, produced as a witness on behalf of plaintiff in rebuttal, being first duly sworn, testified as follows:

Direct Examination by Mr. GEDNEY.

At the present time I reside in Reno. In July, 1911, I was residing in Wonder, Nevada. My husband and I were engaged in the hotel business in Wonder at that time. I was acquainted with Mr. Sheaff at that time. We were acquainted with Mr. Halpenny at that time. Mr. Sheaff and Mr. Halpenny were staying at our hotel at that time. At that time we had a young lady employed who was waiting on table. I had a conversation with Mr. Halpenny on the morning of the

719

(Testimony of Mrs. V. L. Adams.)

18th of July, 1911. Mr. Sheaff was not present; he left earlier in the morning for Fairview. This conversation was between half-past five and  
720 half-past eight o'clock. It took place in our dining-room. Those present were the waitress, myself and Mr. Halpenny, and there was others, but I don't remember just who they were. At that conversation Mr. Halpenny asked if Mr. Sheaff had gone. Either I or the waitress replied that he had gone. [444]

Mr. GEDNEY.—Q. And did Mr. Halpenny then remark, "I should have gone to Fairview myself instead of sending Mr. Sheaff." A. Yes, sir.

Mr. CANNON.—We object on the ground it is incompetent, irrelevant and immaterial, and it does not in any manner tend to contradict the witness  
721 Halpenny.

The COURT.—The objection will be overruled.

Mr. CANNON.—We note an exception.

The action of the Court in overruling said objection and permitting said question to be asked and answered is here assigned as

**Error No. 45.**

Mr. GEDNEY.—Q. And did Mr. Halpenny then say, "Well, Bill is not an experienced electrician, and I am afraid he is not capable of doing that work?" A. Yes, sir.

Mr. CANNON.—One moment, I object to the question on the ground no foundation has been laid for it, and it is incompetent, irrelevant and immaterial, and

(Testimony of Mrs. V. L. Adams.)

722 does not in any manner contradict the testimony of the witness.

The COURT.—Is there any question about that being the language?

Mr. CANNON.—It does not seem to me exactly like the language; there was something about an electrician; however, I don't care to look it up. I will withdraw the objection, excepting that it does not tend in any manner to contradict the testimony of the witness. As to the foundation, I will withdraw the objection.

The COURT.—Or the form of the question?

Mr. CANNON.—Yes.

The COURT.—Then the objection will be overruled.

Mr. CANNON.—We note an exception. [445]

723 The action of the Court in overruling said objection and allowing said question to be asked and answered is here assigned as

**Error No. 46.**

[Testimony of V. L. Adams, for Plaintiff (in Rebuttal).]

Mr. V. L. ADAMS, produced as a witness on behalf of plaintiff in rebuttal, being first duly sworn, testified as follows:

Direct Examination by Mr. GEDNEY.

In July, 1911, I was residing in Wonder, Nevada. I was a hotel-keeper there. I know Mr. Sheaff and Mr. Halpenny who were at that time staying at my



(Testimony of V. L. Adams.)

hotel. On the 18th day of July, 1911, I had  
724 a conversation with Mr. Halpenny concerning  
the injury which Mr. Sheaff had received that  
day. The conversation took place in our wash-room.  
I can't tell you the exact time, nor at about what  
time, but it was when Mr. Halpenny came down from  
the substation, and was cleaning up—washing.

Mr. GEDNEY.—Q. Now, at that time and place  
did Mr. Halpenny make the remark that he was  
very sorry, or sorry that Mr. Sheaff was hurt?

Mr. CANNON.—We object to that on the ground  
that it would not in any manner attempt to contra-  
dict the witness Halpenny, because he did not  
725 deny, and could not say one way or the other,  
whether he made such statements.

The COURT.—I think that is true.

Mr. GEDNEY.—I prefer before that objection is  
made, to put in the last question, and then have the  
matter passed on.

Q. At that time and place, did Mr. Halpenny say  
he was sorry Mr. Sheaff was hurt, and then say, “I  
felt this morning I should not have sent him over  
there?”

Mr. CANNON.—That is objected to on the ground  
it is incompetent, irrelevant and immaterial, and  
does not in any manner attempt to contradict  
726 the witness, the witness not having any recol-  
lection upon that subject at all, and simply a  
[446] matter of an expression of solicitude and re-  
gard.

The COURT.—Do you make any objection to the

(Testimony of V. L. Adams.)

language of the question as propounded to this witness, as to whether it is the precise question which was propounded to Mr. Halpenny?

Mr. CANNON.—It sounds like it, but I am not in a position to say whether the language is the same or not. I have not placed any objection on that ground.

The COURT.—You do not make any objection on that score?

Mr. CANNON.—No.

(Argument.)

The COURT.—It seems to me the only purpose for which this can be admitted is that it may be in conflict with statements made by the witness Halpenny on the stand. It seems to me that it is, and on that alone it is admitted. The objection will be overruled to that extent, and you may have an exception.

The action of the Court in overruling said objection and allowing said question to be asked and answered is here assigned as

**Error No. 47.**

The WITNESS.—Yes, sir.

Mr. CANNON.—If the Court please, we have prepared the amendment to the answer, that was allowed the other day, and we would ask permission at this time to attach it to the answer as a separate defense.

Mr. CURLER.—If your Honor please, in connection with that there is an objection we wish to interpose, and get the understanding of the Court

(Testimony of V. L. Adams.)

upon this amendment. We understood at the time that the offer was to amend the first affirmative defense of the answer by changing the words "caused by" [447] to the words "proximately contributed to the injury"; and we understood the Court  
729 to say that there was sufficient substance or matter in the first amended complaint to authorize the amendment to that section. What counsel purposes doing, as I understand it, is to leave the first separate defense, and add a third defense, pleading what they claim is a plea of contributory negligence, and we insist that that was not the understanding at the time, and that it is too late. We insist, if your Honor please, that the amendment should be restricted either to the changing of those words in the first affirmative defense, or that it should be rejected entirely.

(Argument.)

730 The COURT.—I shall allow the amendment.

It has always been the practice in this Court to be very liberal in reference to amendments, and I don't know that any one on the trial of a case has ever lost anything so far, by his defective pleadings, in this Court, if he could amend them, and the Court could exercise its discretion in that way.

Mr. CURLER.—If your Honor please, since that matter has been settled, under that amendment we now ask to amend the fourth paragraph of our complaint by inserting therein an allegation that the  
defendant knew that the plaintiff was inex-  
731 periened in electricity, and failed and neglected to warn or caution the plaintiff at the



(Testimony of V. L. Adams.)

time they sent him to work upon the arrester.

The COURT.—Is there any objection?

Mr. CANNON.—Yes, your Honor, we object to that on the ground it would be setting up an entirely new cause of action, one that we have not been brought into Court upon; one that the defendant has not been served with, and if such an amendment should be allowed at this time, it would necessitate an application for a continuance. We have not tried our case [448] upon that theory. We have not presented our testimony upon that theory.

732 We have presented our testimony upon the theory of the construction of the complaint, and tried our case on such theory. To allow such an amendment would compel us to demur to the complaint for setting up two causes of action in one count, and setting up different causes of action—duplicity in the complaint, because it is under all of the decisions, a separate and distinct cause of action, based upon separate and distinct principles of construction.

(Argument.)

The COURT.—I will allow the amendment.

Mr. CANNON.—We note an exception, your Honor; and we would like to have the precise form of the amendment submitted to us, because  
733 we will want to ask, and ask now, for an opportunity to demur to the complaint as amended, so that the issues may be properly framed before the case goes to the jury.

The action of the Court in overruling said objec-

(Testimony of Dr. G. M. Gardner.)

tion and allowing said amendment is here assigned as

**Error No. 48.**

Mr. CURLER.—We will submit it at the noon recess.

Mr. CANNON.—We will object to proceeding any further in the case with this change, and move at this time for a continuance of the case for a reasonable time, so we may prepare a defense to the  
734 new theory which has been made by this amendment.

The COURT.—How long a continuance do you want?

Mr. CANNON.—I don't know, the whole matter comes up so suddenly; I will have to communicate with my people, I presume. I have objected to going on with the trial, without waiving my right to make a motion for a continuance; I don't want to delay the trial, and when I see the precise wording [449] of the amendment, I can determine definitely whether I want to press my motion for a continuance or not. With that understanding, I am will-  
735 ing, I am willing to go ahead.

The COURT.—Very well.

**[Testimony of Dr. G. M. Gardner, for Plaintiff (in Rebuttal).]**

Doctor G. M. GARDNER, produced as a witness on behalf of Plaintiff in rebuttal, having been previously sworn, testified as follows:

Direct Examination by Mr. GEDNEY.

The planter facia in that foot is entirely gone;

(Testimony of Dr. G. M. Gardner.)

through the burned area it is entirely destroyed. If the planter fascia is gone it would cause flat foot without a doubt. I have looked that question up in the authorities—Gray's Anatomy; Gray is the recognized authority in anatomy. There is another muscle, which together with the planter fascia,  
736 prevents flat foot—the flexor brevis digitorum muscle. That is also gone.

Cross-examination by Mr. CANNON.

The bones of the foot are held together by tendons. The arch of a person's foot, and the way the bones are fastened has nothing to do with flat foot, the planter fascia being destroyed would be the cause.

**[Testimony of P. R. Sheaff, the Plaintiff, in His Own Behalf (in Rebuttal).]**

Mr. P. R. SHEAFF, produced as a witness in his own behalf in rebuttal, testified as follows:

Direct Examination by Mr. GEDNEY.

Mr. GEDNEY.—Q. Mr. Sheaff, while you were working around the substations at Fairview and Wonder with Mr. Halpenny, did Mr. Halpenny ever say to you, “Sheaff, remember  
737 that wire is alive,” or anything of that nature?

Mr. CANNON.—We object on the ground it is not rebuttal. This witness was asked in his direct examination as to whether Mr. Halpenny ever gave him any warning of any kind, and he said that he did not. [450]

The COURT.—I will allow that question.

Mr. CANNON.—We note an exception.



(Testimony of P. R. Sheaff.)

The action of the Court in overruling said objection and allowing said question to be asked and answered is here assigned as

**Error No. 49.**

The WITNESS.—No.

WITNESS.—(Continuing.) While I was  
738 working around the substation at Fairview  
and Wonder, or either of them, Mr. Halpenny  
never said to me, “Keep away from that wire, Sheaff,  
it is hot.” I never made a connection of wires on a  
lamp in either of those substations, when the wires  
were carrying electricity. I never made any connec-  
tion in either of those substations when the wires  
were carrying electricity. At the time Mr. Halpenny  
directed me to go to Fairview and dig the holes and  
put in the cement blocks, or at any other time, Mr.

Halpenny did not tell me not to touch the wires  
739 or make the connections. He didn’t say any-  
thing to me at that time about touching the  
wires, or at any other time. I never installed, or  
helped to install a generator and steam stationary  
engine at Sabrina Lake, or at any other place. I  
never in my life installed, or helped to install a gen-  
erator. The first time I ever spoke to Mr. Poole, or  
he ever spoke to me, was in Hawthorne, Nevada,  
about the 10th of April, 1911.

Mr. GEDNEY.—Q. Mr. Poole said yesterday that  
he had met you, among other places, in Bodie,  
740 California, or near Bodie, California, in your  
life, before this accident?

A. No.

(Testimony of P. R. Sheaff.)

WITNESS.—(Continuing.) The first time I was ever in or near Bodie, was in July of this year. I did not on September 18th, 1911, tell Mr. Chatfield, or say to Mr. Chatfield that without [451] thinking I must have got into the live wires or live end of the arrester, I never said to Mr. Pittman, in reply to a question from him as to how I got hurt, “I  
741 don’t know, I must have forgot.” I never made that reply to Mr. Pittman.

Cross-examination by Mr. CANNON.

I don’t remember being asked in my cross-examination about Mr. Pittman.

Mr. CANNON.—Q. Isn’t it a fact that you were asked about this conversation with Mr. Pittman, and that you said you did not remember whether you had said that to him or not?

A. I don’t remember you asking me any such question in cross-examination.

Q. Is it not a fact you were asked about this conversation with Mr. Chatfield as to your going  
742 into this wire without thinking, and as to that you said, in your cross-examination, that you didn’t remember? Is not that a fact?

A. I don’t remember; I can’t remember all that cross-examination.

Q. You don’t remember as to that either? Now, you say that you were never told by Mr. Halpenny to keep away from hot wires; you managed to keep away from them, did you, without instruction?

A. I don’t know as I ever came near them.

Q. You kept away from them, didn’t you?

(Testimony of P. R. Sheaff.)

A. There was no occasion to go near them.

743 Q. Do you mean to be understood that you never made any attempt to keep away from hot wires at all?

A. I never had to work near them.

Q. Do you mean to be understood that you ignored the presence of electric wires in your neighborhood, and went about your business just the same as though those wire were [452] not there; do you want us to understand you that way?

A. I didn't have to work around them.

WITNESS.—(Continuing.) I would go about just the same as though they were not there, because they were not hot. I could not tell the difference  
744      ence between hot and cold wires. I don't remember any specific recollection of ignoring or taking notice of any particular wires. I ignored them all, just the same as though they were a stick of wood or a bale of hay.

Plaintiff thereupon rested.

Mr. CANNON.—I have another motion which I would like to make in the absence of the jury.

(At 11:10 A. M. the jury was admonished and retired.)

Whereupon the following proceedings were had and taken:

Mr. CANNON.—If the Court please, I wish to make anew, and renew the motion heretofore  
745      made for a peremptory instruction to the jury, and requiring the jury to return a verdict in favor of defendant; and as the ground of the mo-



(Testimony of P. R. Sheaff.)

tion, I wish to set forth and rely upon each and all of the grounds heretofore stated on the motion originally presented. I presume it will not be necessary for me to repeat them at this time, but it will be understood that the motion is remade and renewed upon each and all of the grounds heretofore stated; and I wish to make this motion, of  
746 course, as appearing at the close of the testimony, and upon the settlement of the pleadings; and do not wish to be considered as waiving the motion for a continuance, if we decide to insist upon it. I do not think it is necessary to reargue the motion, because your Honor is familiar with the evidence brought in, and whether it in any manner affects your Honor's judgment in relation to the case.

The COURT.—You wish this considered as made at the time the instructions are requested, and it will be overruled. [453]

Mr. CANNON.—At the proper time, yes.

The COURT.—At the proper time; and it  
747 will be considered as made whenever you wish it. The ruling will be the same, and you may have the same exception that was made to the previous ruling.

Mr. CURLER.—If your Honor please, I have made investigation of the subject respecting the amendment to the complaint, and I find two lines of authorities, one holding that amendment would make the complaint multifarious, and the other line of authorities that it would not; and I now request the Court to be allowed to withdraw the amendment, and

stand on the complaint as originally drawn.

The COURT.—If there is no objection, of  
748 course, it will be permitted.

Mr. CANNON.—We have no objection to counsel withdrawing all of the amendments to the complaint, and having a stipulation that the pleadings will stand exactly as they stood before his amendment was offered. I presume it may be understood, if the Court please, that the motion referred to the other day, shall be deemed to have been made at this time.

The COURT.—It will be deemed to have been renewed and overruled, and the same exception allowed.

The action of the Court in denying said motion for a directed verdict for the defendant is here assigned  
as

749

**Error No. 50.**

The foregoing constitutes all the evidence had or taken at the trial of said cause.

The cause was thereupon argued by respective counsel and at the conclusion of said argument, the Court instructed the jury as follows:

The COURT.—Gentlemen, it is due to you that I  
[454] apologize for the length of these instructions. Perhaps if I had devoted more time to them, they would have been clearer and shorter. At the present time, this is the best I can do for you.

This action is brought against the Pacific  
750 Power Company to recover the sum of \$40,-  
000.00 damages, \$30,000.00 of which is for physical injuries to plaintiff, alleged to have been

caused by the negligence, carelessness and willful indifference of defendant; and \$10,000.00 for mental anguish suffered and to be suffered by reason of such injuries.

The defendant at the time of the accident was a California corporation, engaged in developing, furnishing and distributing electricity in Nevada and California.

It is charged in the complaint that on the  
751 18th day of July, 1911, while plaintiff was in  
the employ of defendant at Fairview, Churchill  
County, he was ordered to work about and near a  
lightning-arrester, south of the Nevada Hills trans-  
former house and substation. At this time the ar-  
rester was attached to and connected with three high  
tension feed-wires, carrying about sixty thousand  
volts of electricity. The purpose of building and  
maintaining this structure was to provide a vent or  
escape for dangerous quantities of electricity, which  
in excess of the normal and usual voltage might acci-  
dentally or otherwise, find their way on to the  
752 line. This device was of the type usually  
designated as "horn gap" arrester. It was  
so constructed that its three north arms were attached  
one to each of the three high tension feed-wires, and  
consequently each was charged with electricity when-  
ever the feed-wires were carrying a current. The  
lower horn or end of each live arm came within about  
six feet of the ground, and three and one-half feet  
from the south end of the transformer house. On  
the south side of the arrester were three dead arms  
or pipes, ordinarily [455] free from electricity,



corresponding to the three live arms on the  
753 opposite side. The dead arms nowhere came  
in contact with the live arms, or near them, except at the gap, where they were but three and one-quarter inches apart.

On the day of the accident Mr. Sheaff was ordered to dig a hole under the lower end of each of the three dead arms, and to place in each hole a cement block bound with iron clamps. He was at the time, as a part of the instruction, informed that the electrician  
754 would later connect the lower horn of the dead arm with these blocks, and with the ground.

After digging the holes, Mr. Sheaff attempted to pass between the arrester and the south end of the substation. In so doing he came either in such close proximity to, or in such contact with, one of the arms of the arrester, that an electrical current passed through his body, and inflicted the injuries complained of. These injuries he avers are so permanent in character that during the entire remainder of his life he will be deprived of the use of his feet and legs, and suffer great physical pain and anguish, and  
his physical condition and consequent inability  
755 to work or perform manual labor, has caused him great mental anguish and suffering.

It is charged that defendant is responsible for this, because it negligently and carelessly constructed and maintained said arrester at an unsafe and insufficient distance from the ground and the transformer house, and without regard to the security and personal safety of its employees, and sent this plaintiff there to work. Thus it is alleged to have failed and

neglected to furnish plaintiff with a safe place to work.

It is further alleged by plaintiff that at the  
756 time he was employed by defendant as a  
laborer and electrician's helper, and was unfamiliar with the work of a journeyman lineman and electrician, and was unacquainted with and ignorant of [456] the dangers incident to the work of a journeyman lineman and electrician upon or near wires or apparatus carrying electrical current of high voltage, and was receiving only the wages of a laborer or helper; that the dangers and dangerous condition of the arrester were wholly unknown to him before the accident occurred.

Defendant denies any negligence in the construction and maintenance of the arrester, or that it was erected or maintained an insufficient distance  
757 from the ground, or too close to the transformer station, or that defendant was negligent in sending the plaintiff to this place to work. It further alleges that the arrester was erected, placed and maintained in the usual and proper method with due regard to the safety of employees, including the plaintiff, and that the structure was free from defects as a whole, or in any of its parts. Defendant denies that plaintiff was employed as a laborer; admits that he was employed as an electrician's helper. Also denies that he was unfamiliar  
758 with the work of a journeyman lineman or electrician, or with the dangers incident to such work on or near wires or apparatus carrying electric current of high voltage. It alleges that

the place where plaintiff was working was not dangerous, except for those ordinary dangers surrounding all electrical apparatus and appliances, and of these ordinary dangers plaintiff had been fully informed, and had full knowledge. Finally it is denied that plaintiff has by reason of said alleged injuries, or by reason of defendant's said alleged negligence, suffered any damage whatever.

For separate defenses defendant claims that plaintiff was guilty of contributory negligence; in  
759 other words, if he suffered any injury, it was caused, in whole or in part, by his own carelessness.

For a second defense it is alleged that the dangers [457] and risks at the time and place of the accident were open and fully understood by the plaintiff, and consequently he assumed them as a part of his employment.

From the fact that Mr. Sheaff has suffered a grievous injury you cannot infer that the power company must pay for it. It is not the law that the master must compensate his servant whenever the latter, even in the course of his employment, is  
760 disabled or seriously hurt. The master does not absolutely guarantee the safety of his employees. In every case of this kind the inquiry must be as to whether the injury was the direct and proximate result of the fault, neglect or carelessness of the defendant, who is sought to be held responsible therefor. No matter how much the plaintiff's condition may appeal to us and stir our sympathies, he cannot recover unless he was himself free from fault, and



his condition the direct result and consequence  
761 of the company's failure to perform the duty  
which it owed to him as one of its servants.  
Whether we deem this, and other rules which I shall  
state, just and right, is of no moment. It may not  
be amiss to say that the law which we must apply here  
is less favorable to the claims of an injured employee  
than the law in some other states; but this is no con-  
cern of ours. The legislature of this commonwealth  
in its wisdom saw fit to leave the law regulating the  
liability of the master for injuries to his ser-  
762 vants, as it is; and as it is written, not as we  
would have it, or as we believe it should be, we  
must, under our oaths, administer and apply it.

The plaintiff is not entitled to recover for any  
negligent act or omission not set out in his complaint.  
In this connection it is proper for me to say also, that  
he cannot recover for medical care and attention, or  
nurse hire, or medicines, or board or lodging, or loss  
of wages, since, [458] the accident. And this is  
because he has not asked relief for such items. He  
must abide by his cause as he has made it in his com-  
plaint.

763 The power company owed certain duties to  
the plaintiff. Among them was the duty to pro-  
vide him with a reasonably safe place to work, and  
reasonably safe appliances to work with. If he was  
sent by the company to work about its lightning-  
arrester at Fairview, it was its duty to use reasonable  
care to make and keep the place safe, and to use  
such care, diligence and foresight as was commen-  
surate with the danger, and with Mr. Sheaff's ex-

perience known to the company. The greater the danger, the greater should be the care. The  
764 law does not require the place and appliances to be absolutely safe, but it did require of defendant that it should exercise that degree of care in the erection and maintenance of its lightning-arrester which an ordinarily prudent person engaged in the same business, under all the conditions then and there existing, would have exercised. It was its duty in maintaining and using lightning-arresters charged, in whole or in part, with deadly currents of electricity, to furnish, as nearly as reasonably possible, a perfect protection at those points where its employees in the line of their employment might come in contact with live wires. It had no  
765 right merely for its own convenience, or for economical reasons, to unnecessarily hazard the life or safety of its employees. This duty to provide a reasonably safe place to work is so fixed, so obligatory, that the master cannot release himself from responsibility for its violation or nonobservance, by delegating it to some one else. Consequently, if you find that the lightning-arrester was negligently placed too near the ground, or too near the south end of the transformer house, and that this negligence was the negligence [459] of some agent or employee of the company, acting within the scope  
766 of his employment at the time, then it would be the negligence of the company.

While it is the duty of the master to furnish his servant with reasonably safe machinery and appliances with which to work, the machinery and appli-

ances need not be of the best, nor of the most approved pattern. If they are reasonably safe and adapted to the purpose of the employment—that is, if they are such as a reasonably prudent man engaged in the same business under the same condi-

tions, having in view the safety of his employees, and their experience and knowledge and familiarity with the dangers of the business, would use, it is not negligence to use them. If in this case you find, after a consideration of all the evidence, that a reasonably prudent person engaged in the same business as the defendant, under all the conditions which prevailed at the time and place of the accident, and having due and reasonable regard for the safety of his employees, and to their experience, would have built and maintained an arrester so close to the ground and to the end of the trans-

former house as the evidence discloses the arrester in this case to have been, would have sent this plaintiff with his experience, there to work, then you cannot find the defendant was guilty of negligence. The burden of proving such negligence is on the plaintiff, and if it is not proven by a preponderance of the evidence, the plaintiff cannot recover.

You are instructed that the only cause of action which the plaintiff is entitled to have submitted for your consideration, is based upon the charge that the defendant sent the plaintiff to work at a place which

was not reasonably safe, in view of the unusual or extraordinary risks incident thereto, if any there were. You are, therefore, further in-



structed that [460] if you find from the evidence that the place to which plaintiff was sent to work was a reasonably safe place, as that expression or term is hereinafter defined, your verdict must be in favor of the defendant, Pacific Power Company.

This instruction must be understood with this addition: In determining whether there was negligence in sending Sheaff to work about the arrester, you should consider the situation and conditions, and what the power company knew of his experience and familiarity with electricity and electrical arms  
770 and appliances, lightning-arrester, and the dangers thereof.

Although the place to which an employee is sent to work may be actually dangerous, it may, notwithstanding, be a reasonably safe place to work within the meaning of the law relating to the duty of an employer toward his employees. Some occupations are essentially dangerous, and some places where employees are obliged to work are essentially dangerous, but it does not follow that an employer is negligent in sending an employee to work in such dangerous place. Dangerous work, such as working about electricity, is lawful and must be done. Therefore, an em-  
771 ployer has a right to set an employee at such work, or to direct him to work in a dangerous place, and an adult employee, who accepts such work, fully knowing and appreciating its dangers, takes upon himself the risks of the dangers incident thereto—the extraordinary dangers as well as the ordinary dangers. But in this connection it is proper that I should say that it may be negligence

to send one man into a place where it would not be negligence to send a man of larger experience and capacity. The employer has the right to pre-  
772 sume in the absence of knowledge to the contrary, that an employee who accepts a particular kind of work, and receives the ordinary and usual compensation for such work, has the knowledge, [461] discretion and experience of the average employee of his age and intelligence, for that kind of work. And in like manner, where an employee engages himself for a specific work, and receives the ordinary and usual compensation paid by his employer for such work, the employer, in the absence of knowledge to the contrary, has the right to presume that the employee has the requisite knowledge, experience and familiarity with the  
773 dangers. On the other hand, the employee has a right to presume, in the absence of any knowledge to the contrary, that the master has taken every reasonable precaution which a reasonably prudent person in the same business, under the same circumstances, would take to make safe the place where he is assigned to work, and not to send him into a place where the dangers are those with which he is not familiar.

The company, in the absence of any information to the contrary, had a right to assume that Sheaff was acquainted with the duties of an electrician's helper, and the dangers ordinarily incident thereto.  
774 Now, if the defendant is found not to have been negligent in this respect, that ends the case. But if you find that the defendant was negligent in

this respect, and that this negligence was the direct and proximate cause of the injury, then it will be your duty to inquire as to whether the accident was due, in part or altogether, to Sheaff's own default, or whether he must be held to have assumed the risks and dangers by entering into the employment and continuing therein.

In this case defendant has interposed among other defenses, the defense of contributory negligence, and in this connection the defendant  
775 claims that the injury received by the plaintiff was proximately contributed to by his own carelessness and negligence in failing to exercise his natural faculties in order to avoid injury, and in failing to conduct himself in a reasonably prudent manner while engaged in and about [462] his work, and in going to and from his employment. The defendant also claims that the accident was due wholly to the plaintiff's negligence. Sheaff cannot be deemed to have been in fault for the reason that he failed to  
776 take precautions which he did not know to be necessary for his safety, and his right to recover will not be barred on the ground that he was guilty of contributory negligence, if the right to recover otherwise existed, unless it is shown that he knew, or ought to have known, not only that the act of going around the lightning-arrester on the side he was going at the time he was injured was an imprudent act, but also that he comprehended the danger to which the condition of the lightning-arrester, and his passing around it on that side, exposed him.



777        The defense of contributory negligence is an affirmative one, to be established by a preponderance of the proof introduced and admitted in the entire case. In other words, you cannot *assumed* that plaintiff was guilty of contributory negligence; such negligence must be shown by a preponderance of the evidence, and the burden of showing this is upon the defendant. If the fact of contributory negligence is disclosed by the evidence of the plaintiff himself, or by the evidence altogether, and by a preponderance of that proof, you are warranted in finding it to be a fact.

778        Contributory negligence is such an act or omission on the part of the plaintiff amounting to a want of ordinary care, as concurring or cooperating with the negligent act of the defendant, is the proximate cause of, or proximately contributes to the injuries complained of.

If you find that plaintiff was sent by his superior to the substation at Fairview with instructions to dig the holes and place therein concrete blocks at the dead side of the lightning-arrester in question, and that the plaintiff, by exercising [463] ordinary care for his own safety, might have avoided injury

779        from the live wire or wires on said lightning-arrester, but that he received injuries from such live wire or wires in consequence of his failure to exercise such ordinary care for his own safety, as, under the circumstances, and his knowledge and experience, he should have exercised, he is guilty of contributory negligence.

If you find that on the day of the accident to the

plaintiff there was on the door of the substation at Fairview, a danger sign; that there was a fence around the lightning-arrester; that there was a danger sign on one of the posts used in the construction of the switch; that the live wires of the lightning-arrester were in plain view of the plaintiff; that the connection of such live ends with the high-tension wire overhead was in plain view of plaintiff; that there was a current on the high-tension wires overhead, and that the transformers were making an audible purring noise; that the plaintiff heard said purring noise, and knew, or ought to have known, that there was a current of electricity being carried on said high tension wires; that he saw, or ought to have seen, said danger sign on the door of said substation; that he saw, or ought to have seen, said danger sign on said switch-post; that he saw, or ought to have seen, said live ends of said lightning-arrester and their connection with the high-tension wires above, and that from all such facts and circumstances taken in connection with the character of his employment and his experience therein, and his age and experience, intelligence and capacity, he either knew and appreciated, or should have known and appreciated, the danger of coming into contact with, or close proximity to, either of the live ends of said lightning-arrester, and that notwithstanding such knowledge and appreciation, through inadvertance, inattention, or forgetfulness, he came either into [464] contact with, or in such close proximity to, one of the live ends of said lightning-arrester that he received a

shock and suffered injury therefrom, he was guilty of contributory negligence.

If you find that the plaintiff in going about the performance of the work which he had been sent to do on the day of the accident, had two equally available ways open to him by which he could go to or return from the place of his said employment, 783 that he could by the exercise of such knowledge and experience as he possessed, or by his powers of observation as an adult of ordinary experience, intelligence and capacity, have observed and appreciated the danger of one of said ways, if any, that he went to the place where his work was to be performed, by the safe way, performed his work in safety, and elected to return by the dangerous route, and in consequence of such action on his part he received the injuries complained of, this, also, would be contributory negligence.

In deciding whether Sheaff knew, or could 784 have known, of the dangerous condition, you should consider all the circumstances and conditions, as well as his knowledge and experience. He, on his part, was entitled to assume that the Power Company had taken every precaution to make safe the place where he was directed to work, and that the company would not negligently expose him to danger of which he was ignorant and unfamiliar to their knowledge.

If you find plaintiff was guilty of contributory negligence, you must find for the defendant.

The second defense interposed by defendant reads as follows:



“All of the conditions surrounding the  
785 plaintiff at the time of the accident alleged in  
plaintiff’s complaint, and all of the dangers  
and risks incident thereto, were open [465] and  
explained to, and understood by the plaintiff, and  
plaintiff had full knowledge thereof, and such dan-  
gers and risks were assumed by him as a part of his  
employment.”

If this allegation of the answer is established by  
a preponderance of the evidence—and the burden is  
upon the defendant to so establish it—unless it is  
shown by the testimony, the plaintiff cannot recover.

A brief statement of the doctrine of assumption of  
risk is as follows:

786 A servant by entering into and continuing  
in the employ of a master without complaint,  
assumes the ordinary risks and dangers of the em-  
ployment, as well as the extraordinary danger which  
he knows and appreciates.

A familiar illustration of this might be where a  
man hired out to you to feed a threshing-machine;  
the danger of bringing his hand or fingers in con-  
tact with the revolving cylinder is open and obvious,  
and that is one of the dangers which he assumes; it  
is one of the dangers incident to the business;  
787 and if he gets his fingers or his hand in con-  
tact with the cylinder, and is injured, he can-  
not recover. But if there is a defect in the cylinder  
of which he had no knowledge, and in consequence  
of which the cylinder breaks or flies in pieces, and he  
is injured, he can recover, provided he did not know  
of it, and provided further the defect was one which

was known by the owner of the machine, or one which he could have discovered if he had performed his duty of inspecting the machine and the cylinder in the way that men engaged in that business  
788 ordinarily do. Now, the feeder, in such a case as that, assumes the ordinary risks; that is, the risks and dangers of bringing his hand in contact with the revolving cylinder; but he does not assume the risk of defects in the machinery, which he did [466] not know, and which are there or undiscovered by reason of the carelessness of his employer.

Plaintiff's action here is based on the power company's alleged negligence in sending him to work about the arrester, and in placing the live arms of the arrester too near the ground, and in too close  
789 proximity to the transformer house. If in this the company was negligent, if under all the circumstances, it was a reasonably safe place for Sheaff to work, there is no case, and the plaintiff cannot recover. Under such circumstances, even though the place were dangerous, the danger would be one of the ordinary risks of the business which Sheaff assumed. But on the other hand, if the power company was negligent in so placing the arrester, and in sending Sheaff there to work, it was not an ordinary risk of the business, within the meaning of the rule, because a servant does  
790 not assume the risk and dangers incident to his master's negligence—to his master's negligent failure to provide him with a safe place to work. Such a risk is an extraordinary risk, and is not as-

sumed by the servant, unless he knew and comprehended the danger, or unless it was so plainly observable, considering his knowledge and experience, that he must be taken to have known and comprehended it.

In this case if you find that placing the lower horn of the live arms of the lightning-arrester so near the ground and the station, was negligence on the  
791 part of the company, you cannot find Sheaff assumed the danger and risks thereof, by entering into and continuing in the employment of the defendant, unless at the time of and before the accident, he was aware of and appreciated the dangers, or unless that fact was so open and obvious, in view of his knowledge and experience and the surrounding conditions, that he ought or must have known it by the exercise of his senses. [467]

The complaint does not allege that the plaintiff was unfamiliar with or ignorant of the ordinary duties of an electrician's helper, and does not allege  
792 that the plaintiff was ignorant of the ordinary risks and dangers of his employment as an electrician's helper, therefore it must be taken as an admitted fact in this case, so far as the charge of negligence against the defendant is concerned, that plaintiff was familiar with the ordinary duties of an electrician's helper, and comprehended all of the usual and ordinary risks and dangers attendant to said employment, save as this admission is modified and limited by the allegation that he was unfamiliar with the work of a journeyman lineman and electrician, on or near wires or apparatus carrying



electrical current of high voltage, and that  
793 said place was a dangerous place in which to  
work by reason of the fact that the live arms  
of said lightning-arrester were so near the ground  
and in such close proximity to said substation, and  
that said dangerous conditions were wholly un-  
known to plaintiff herein, and plaintiff was ignorant  
of the same.

The plaintiff in this case, who was an electrician's  
helper, must be presumed, in the absence of testi-  
mony to the contrary, to have known, understood  
and appreciated all of the ordinary risks and dan-  
gers incident to said employment, and if the  
794 risk and danger, if any, attendant upon his  
employment upon the day of his injury, were  
of such a character that they should have been under-  
stood and appreciated by him as an electrician's  
helper, he assumed the risk.

The law supposes every adult person to possess  
such ordinary intelligence, judgment and discretion  
as will enable him to appreciate any obvious danger.  
The master, therefore, has the right to assume that  
an adult employee possesses that knowledge which  
is acquired by common experience, and that he  
[468] knows everything which is a matter of com-  
mon knowledge, or presumed to be within the  
795 common experience of all men of common  
education; that he understands those dangers  
which are the subject of common knowledge, or which  
can be readily seen by common observation. The  
defendant, Pacific Power Company, therefore had a  
right to assume, in the absence of knowledge to the

contrary, that the plaintiff Sheaff, who was an adult employee, possessed that knowledge which is acquired by common experience; that he knew everything which was a matter of common knowledge, or presumed to be within the common experience of all men of ordinary education; that he, Sheaff, understood those dangers which are the subject of  
796 common knowledge, or which can be readily seen by common observation. If, therefore, the dangers, if any, which attended the employment of Sheaff on the date of his injury, were such as were the subject of common knowledge, or which could be readily seen by common observation, you are instructed that plaintiff assumed the risk thereof.

The mortality table introduced in evidence, relating to the expectancy of life of the plaintiff, while receivable as evidence on that subject, is not at all conclusive. It does not preclude the jury from exercising and acting upon their own judgment,  
797 even though it may conflict with such table.

It is a matter of common knowledge that human life is uncertain, and that it is impossible to foretell how long any one will live. This subject, therefore, is one which must, in the last analysis, rest in the sound judgment and discretion of the jury, considering the plaintiff's age at the time of the accident, his physical condition, his occupation, whether dangerous or otherwise, and all other circumstances which may appeal to the jury as reasonable men.

In considering this testimony, gentlemen, you must [469] remember that it is always easy to be

798     wise after the event; and it is easy for us to  
see what could have been done to avoid this  
injury; but in determining what the plaintiff  
knew, and whether he exercised proper care, and in  
determining whether defendant exercised that care  
which it should have exercised, you are to place your-  
selves, as nearly as you can, in the conditions as they  
existed at and before the time of the accident.

      If you find that plaintiff is entitled to a verdict,  
you are not permitted to fix the amount by lot  
799     or chance, or by average. It is improper for  
one or more members of the jury to separately  
fix the damages, add these together, and divide by  
any number, agreeing beforehand that the result so  
obtained shall be the verdict; or for each member of  
the jury to set down a figure he thinks fair, and add  
these several amounts, and divide the aggregate by  
twelve, agreeing beforehand that such result shall be  
the verdict.

      You are the exclusive judges of the facts, of the  
credibility of the witnesses, and of the weight which  
is to be given to the statement made by each witness.

      Counsel may declare what is proven, and the  
800     Court may express his views as to the facts;  
you, however, are to listen to such utterances,  
and give them such consideration, and such con-  
sideration only, as in your judgment you deem  
proper and reasonable as intelligent and honest men.

      As to the law, the rule is different. You are to  
follow the instructions of the Court. If the Court  
errs in its statement of legal principles, it is the  
error of the Court, for which the Court alone is re-



sponsible, and not the jury.

It is hardly necessary for me to remind you  
801 that you are to consider only those facts  
which are disclosed by the testimony here admitted. You cannot go outside of or beyond the testimony. The plaintiff is not entitled to a verdict on any [470] ground of negligence not set out in his complaint, neither is he entitled to recover in this action unless you believe from a preponderance of the evidence that the injury was the natural and proximate result of some wrongful act, neglect or default of the defendant which is set out in the complaint.

By a preponderance of evidence is meant that evidence which after a consideration of all the  
802 evidence, is entitled to greater weight; it is such evidence as when compared with that opposed to it, has the more convincing force. The burden of proving his case by a preponderance of the evidence rests on the plaintiff. The burden of proving its affirmative defenses rests upon the defendant. As I have already intimated, the defendant cannot be charged with responsibility for the injury to the plaintiff, unless the injury was the direct and proximate consequence and result of the negligence and default of the defendant. A proximate cause of an event is defined as that which in the  
803 natural and continuous sequence, unbroken by any new independent cause, produced that event, and without which the event could not have occurred.

A witness is entitled to the greatest weight, every-

thing else being considered, who has the best opportunity to know, and the highest degree of intelligence in seeing, understanding and weighing whatever appears before him in relation to the subject on which he is being examined. A witness is presumed to speak the truth; this presumption, however, may be repelled by the manner in which he testifies, by his demeanor on the witness-stand, by the character of his testimony, by his motives, or by contradictory evidence, or by his interest in the outcome of the case.

In judging the credibility of the respective witnesses in this case, if there is any conflict you may believe the whole or any part of the evidence of any witness, and if [471] you believe that a witness has testified falsely, and has done so knowingly and willfully, as to any material matter, you may disregard the whole or any part of his testimony as may be dictated by your best judgment, save where  
805 it is corroborated by other credible testimony.

But if a witness appears to have stated that which is untrue, but to have done so through some mistake or misunderstanding, it will warrant you in viewing his testimony and scrutinizing it with more care than otherwise you would.

In this connection you must remember that your power and duty to judge of the effect of the evidence is not an arbitrary one, it must always be exercised with legal discretion, and in subordination to the rules of evidence.

It takes twelve of your number to find a verdict.

The clerk has prepared two forms of verdict,  
806 and when you have retired to your jury-room,  
you will elect a foreman; when you have  
agreed upon your verdict, you will notify the mar-  
shal, and you will be brought into court.

Now, gentlemen, I will leave this case with you,  
and I wish to say I do it with the utmost confidence.  
You have listened to this evidence very patiently and  
very carefully. The hearing of the case has taken  
considerable time. You are to remember that you  
are here simply to find the truth, and to do that  
which is just and right between these two  
807 parties. You are not to be swayed by sym-  
pathy; you are not to decide against one party  
because it is a corporation, or in favor of the other  
party because he is a laboring man. You are not to  
be influenced by the condition, by the wealth or by  
the poverty of either party; you are simply to give  
a verdict, just and fair, which your own conscience  
will approve, and to do that which is right between  
man and man.

Now, gentlemen, are there any exceptions? [472]

Mr. CANNON.—We except to the modification of  
defendant's requested instruction number 3, which  
as proposed read as follows:

808 “You are instructed that the only cause of  
action, which the plaintiff is entitled to have  
submitted to you for consideration, is based upon  
the charge that the defendant sent the plaintiff to  
work at a place which was not reasonably safe in  
view of the unusual or extraordinary risks incident  
thereto, if any there were.



“You are, therefore, further instructed that if you find from the evidence that the place to which plaintiff was sent to work was a reasonably safe place, as the expression or term is hereinafter defined,  
809 your verdict must be in favor of the defendant, Pacific Power Company.”

The COURT.—You will be entitled to your exception, because I modified number 3 decidedly.

The action of the Court in modifying said instruction is here assigned as

**Error No. 51.**

Mr. CANNON.—We except to the modification of instruction number 4-A, which as proposed read as follows:

“The complaint does not allege that the plaintiff was unfamiliar with or ignorant of the ordinary duties of an electrician’s helper, and does not allege that the plaintiff was ignorant of the ordinary risks and dangers of his employment as an electrician’s helper. You are, therefore, instructed that  
810 it must be taken as an admitted fact in this case, so far as the charges of negligence against the defendant are concerned, that the plaintiff was familiar with the ordinary duties of an electrician’s helper and comprehended all of the usual and ordinary risks and dangers attending the said employment.”

The COURT.—I excluded that. You may have your [473] exception. The modification was on the ground and for the reason that a servant cannot be presumed, as a matter of law, to assume the dan-

gers incident to an employment in which he  
811 was not engaged. There is an assumption in  
4-A that Sheaff was acquainted with the dangers incident to the work of a journeyman lineman and electrician. There is no admission in the pleadings which will warrant me in so instructing the jury.

The action of the Court in modifying and excluding said instruction is here assigned as

**Error No. 52.**

Mr. CANNON.—I think number 4-B was not given at all, therefore, I except to that. Said instruction number 4-B, as proposed, read as follows:

“The complaint does not allege that the plaintiff was unacquainted with or ignorant of all of the  
812 dangers incident to the work of a journeyman lineman and electrician, but does state that the plaintiff was unacquainted with and ignorant of the dangers incident to the work of a journeyman lineman and electrician upon and near wires or apparatus carrying electric current of high voltage and potential energy. You are instructed, therefore, that in so far as the charges of negligence against the defendant are concerned, it must be taken as an admitted fact in the case that the plaintiff was acquainted with and not ignorant of any of the dangers incident to the work of a journeyman lineman  
813 and electrician, excepting upon or near wires or apparatus carrying electric current of high voltage and potential energy. As to all other matters relating to such duties and dangers he must be deemed, in so far as negligence against the defendant

is concerned, to have had knowledge of such dangers.”

The COURT.—Number 4-B I declined to give. You may have an exception to Number 4-B. [474]

The action of the Court in refusing to give said requested instruction is here assigned as

**Error No. 53.**

814 Mr. CANNON.—Number 4-C was not given. Instruction Number 4-C, as proposed, read as follows:

“The complaint, as amended, charges as one of the alleged defects of the lightning-arrester that it was placed or constructed too close to the substation building.

You are instructed that the evidence fails to sustain this charge, and you will, therefore, ignore it in arriving at your verdict.”

Mr. CANNON.—We note an exception to that.

The COURT.—I declined to give that also, so you will have an exception to number 4-C.

The action of the Court in refusing to give said requested instruction is here assigned as

**Error No. 54.**

815 Mr. CANNON.—And number 5, I think, was not given.

Said instruction, as proposed, read as follows:

“Certain evidence has been admitted in the case with respect to the question as to whether or not the defendant warned the plaintiff as to the dangers attending the work, upon which he was engaged at the time of the accident, if any, and whether the defendant instructed him as to how to avoid such danger.



In this connection you are instructed that the complaint does not set forth any cause of action  
816 against the defendant based upon any alleged failure of the defendant to give the plaintiff any such warning or instruction, and you cannot, therefore, find the defendant guilty of negligence on that ground.”

Mr. CANNON.—We note an exception to that.  
[475]

The COURT.—Number 5 it seemed to me was out of the case. It is based on the amendment which plaintiff has withdrawn.

Mr. CANNON.—The object of the instruction was to put it out of the case absolutely.

The COURT.—It is out of the case.

Mr. CANNON.—Then your Honor has not given that?

The COURT.—I don't think that is in the case.

Mr. CANNON.—We will note an exception  
817 to that.

The action of the Court in refusing to give said requested instruction is here assigned as

**Error No. 55.**

Mr. CANNON.—Number 5-B was modified.

Instruction number 5-B, as proposed read as follows:

“Although the place to which an employee is sent to work may be actually dangerous, it may, notwithstanding, be a reasonably safe place to work within the meaning of the law relating to the duty of an employer toward his employees. Some occupations are essentially dangerous, and some places where

employees are obliged to work are essentially  
818 dangerous, but it does not follow that an employer is negligent in sending an employee to work in such dangerous place. Dangerous work, such as working about electricity, is lawful and must be done.

Therefore, an employer has a right to set an employee at such work or to direct him to work in a dangerous place, and an adult employee, who accepts such work, takes upon himself the risk of the ordinary dangers incident thereto. The greater the risk and danger of the particular work or the particular  
819 place, the greater is the risk which the employee assumes. It is only concealed and latent dangers, or dangers of which he does not or should not know and appreciate the risk, [476] for which the employee does not assume the responsibility. Therefore, if an employee is sent to work in a dangerous place, but the dangers, even though great, are open, plain and obvious and such as are or should be known to an adult person of ordinary intelligence and capacity, such place is under the law a reasonably safe place to work, and the employer is  
820 not responsible for any injury that may be sustained by the employee through or by reason of such dangers."

Mr. CANNON.—I note an exception to the modification; and that latter half of it, I think was not given.

The COURT.—I intended to give that, in substance. If you have been harmed by an omission there, I wish you would put your finger on it.

Mr. CANNON.—My recollection is that your Honor gave about one-half of it, and then inserted a modification, and left out the rest.

The COURT.—I did, but I have given the rest, in substance, elsewhere. I shall not allow the exception unless you show where you are harmed.

821 Mr. CANNON.—I think I will be able to point that out. I don't think your Honor gave this, that "the greater the actual risk and danger of the particular work or the particular place, the greater is the risk which the employee assumes."

The COURT.—I will give that.

Mr. CANNON.—That will be considered as given, then?

The COURT.—It don't make any difference how great the dangers are if the employee understands and appreciates them, and voluntarily goes to work, under such conditions he assumes the risk. That will be understood as given.

822 Mr. CANNON.—I don't remember that this was given: "It is only concealed and latent dangers, or dangers of which [477] he does not or should not know and appreciate the risk, for which the employee does not assume the responsibility." I don't remember that your Honor said anything about concealed or latent dangers in your instructions.

The COURT.—I have said that he did not assume the dangers and risks of the employer's negligence, and I don't think this statement is exactly true, that "it is only concealed and latent dangers, or dangers of which he does not or should not know and appre-



823 ciate the risk, for which the employee does not  
assume the responsibility.” I don’t think  
that statement of the law is precisely correct  
—it is not complete.

Mr. CANNON.—We will note an exception to that.  
Then the latter part of the instruction, from the word  
“therefore.”

The COURT.—That has already been given.

Mr. CANNON.—Your Honor thinks that has been  
given substantially as there presented?

The COURT.—I think so. I didn’t give it in your  
language, but it has been given.

Mr. CANNON.—I would like to note an exception  
as to such variation or modification as there may  
have been from that expression.

824 The COURT.—Well, I cannot allow the ex-  
ception unless you show how you are harmed.

Mr. CANNON.—I think we are entitled to have it  
stated in that form, that under that state of facts  
the employer is not responsible.

The COURT.—There is another very serious ob-  
jection. The proposed instruction reads: “If an  
employee is sent to work in a dangerous place, but  
the dangers, even though great, are open, plain and  
obvious and such as are or should be known to an  
adult person of ordinary intelligence and capacity,  
[478] such place is under the law a reasonably safe  
place to work.”

825 I cannot, as a matter of law, instruct the  
jury that a dangerous place, no matter how  
dangerous it is, and how unnecessarily dangerous it  
is, is a safe place to work, if the servant knows and

appreciates the danger.

Mr. CANNON.—May I have an exception, your Honor?

The COURT.—You may have an exception.

The action of the Court in modifying said instruction is here assigned as

**Error No. 56.**

Mr. CANNON.—And number 5-C, I don't believe that instruction was given.

826      Instruction number 5-C, as proposed, read as follows: "If you find that the defendant sent the plaintiff to work in a place which was actually dangerous, but the danger thereof was open and obvious and should have been known and appreciated by him, I instruct you that the place to which he was sent was reasonably safe, and his employer cannot be held responsible for injuries suffered by him through or on account of such dangers."

Mr. CANNON.—That is practically the same proposition to which your Honor has just allowed an exception.

The COURT.—You may have an exception.

The action of the Court in refusing to give said requested instruction is here assigned as

827      **Error No. 57.**

Mr. CANNON.—Number 15, I would like an exception to that.

Instruction number 15, as proposed, read as follows:

"You are instructed that the danger attending the [479] employment of the plaintiff at the time of

his injury was open, patent and obvious and such as should have been known and appreciated by an adult person of ordinary intelligence, experience and capacity. This being so he assumed all the risks thereof, and your verdict must, therefore, be in favor of the defendant.”

The COURT.—The exception will be allowed to that.

828       The action of the Court in refusing to give said requested instruction is here assigned as  
**Error No. 58.**

Mr. CANNON.—I don’t believe that your Honor gave this instruction, either in substance or effect: “You are instructed that the question as to whether the lightning-arrester described in the complaint and involved in this action was of proper design and construction or placed at an improper place is of no importance or materiality in this case except in so far as the position in which said lightning-arrester was placed bears upon the question as to whether the employer furnished his employee with a  
829       reasonably safe place to work considering all of the ordinary dangers incidental to his employment.”

If your Honor gave that instruction I didn’t hear it, and I think we are entitled to have that point differentiated.

The COURT.—I will give it. (Addressing the jury.)

You are instructed that the question as to whether the lightning-arrester described in the complaint and involved in this action was of proper design and con-



struction is of no importance or materiality in this case, except in so far as the position in which said lightning-arrester was placed bears upon the  
830 question as to whether the employer furnished his employee with a reasonably safe place to work considering all of the ordinary dangers incidental to his employment, and considering also what he knew of Mr. Sheaff's knowledge and experience. [480] If, therefore, you find that the place where the employee was sent to work was not unsafe, tested in this way, had he used ordinary care in the performance of his duties, I instruct you that it makes no difference in this case whether said lightning-arrester was placed too near the ground or not; in other words, if the place of plaintiff's  
831 employment was such a distance from the live ends of the lightning-arrester that they did not make his place of employment dangerous, if he had used proper care in the performance of his duties; and in determining what proper care is, you must consider all the conditions, and consider his knowledge and his experience, as it is disclosed in the evidence. I instruct you even if the lightning-arrester were placed too near the ground, that fact, under such circumstances, was not the proximate cause of his injury.

Mr. CANNON.—I do not believe number 1-C was given.

832 Instruction number 1-C, as proposed, read as follows:

“The plaintiff does not demand in his complaint any damages for estimated loss of earnings or earn-

ing power in the future. You will, therefore, in the event that you find a verdict in his favor, allow him nothing as damages for loss of earnings or earning power in the future. Not having demanded any such damages he cannot recover them in this action.”

The COURT.—No, it was not. You may have an exception to that.

The action of the Court in refusing to give said  
833 requested instruction, is here assigned as

**Error No. 59.**

The COURT.—One of the jurors has asked something about the damages, and what their duty is. I will give this instruction, though it was not included in those which has already [481] been given. (Addressing jury.) In this case the plaintiff has asked \$30,000.00 for personal injuries, and \$10,000.00 for mental worry and anguish. You are to give him what is the exact equivalent of his injuries; nothing more and nothing less, pro-  
834 vided you find in his favor. There are two forms of damages recognized by the law—compensatory damages and exemplary damages. Exemplary damages mean smart-money, something which is inflicted in addition to actual compensation, by way of punishment. That, however, is not in this case. If you find for the plaintiff, you can give him what will be the exact equivalent of his injuries.

The Clerk has prepared two forms of verdict. One of them is, “We, the jury in the above-entitled cause, find for the defendant.” If you find for the defendant there are no damages to be fixed.  
835 The other form is: “We, the jury in the above-entitled cause, find for the plaintiff, and assess

the damage in the sum of \$———.” If you find for the plaintiff, you will insert the damages, and the foreman whom you select will date and sign the verdict.

Thereupon the jury retired to consider of their verdict, and returned into Court with the following verdict, to wit:

“We, the jury in the above-entitled cause, find for the plaintiff, and assess the damages at \$15,000.00.

Dated December 23d, 1913.

GEO. PLUMMER,

Foreman.” [482]

836

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*In the District Court of the United States, in and for  
the District of Nevada.*

No. 1571.

P. R. SHEAFF,

Plaintiff,

vs.

PACIFIC POWER COMPANY, a Corporation,  
Defendant.

**Stipulation [as to Original Exhibits].**

It is hereby stipulated and agreed by and between the respective parties hereto, that all of the original exhibits used on the trial of the above-mentioned action in the District Court of the United States, in and for the District of Nevada, may be transferred from said court to the United States Circuit Court of Appeals, for the Ninth Circuit, and used on the hear-



ing and determination of the appeal of the de-  
837 fendant from the judgment therein entered,  
with the same force and effect as if the same  
had been incorporated in the said Bill of exceptions  
and set out in the original and copies of the tran-  
script to be filed in the above-entitled action.

Dated March 1st, 1915.

WILLIAM M. ABBOTT,  
WILLIAM M. CANNON,  
METSON, DREW & MACKENZIE,  
GEORGE A. BARTLETT,

Attorneys for Appellant.

B. F. CURLER,

Attorney for Respondent. [483]

(Aforesaid Title of Court and Cause.)

**Admission of Service of Copy of Bill of Exceptions.**

Due service and receipt of a copy of the  
838 within Bill of Exceptions is hereby admitted  
this 1st day of March, 1915.

B. F. CURLER,

Attorney for Plaintiff. [484]

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(Aforesaid Title of Court and Cause.)

**Stipulation to Correctness of Bill of Exceptions.**

It is hereby stipulated and agreed by and between  
the attorneys for the respective parties to the above-  
entitled cause that the foregoing Bill of Exceptions  
is correct, and that the same may be certified and  
authenticated by the Honorable E. S. Farrington,

Judge before whom said cause was tried, as a full,  
true and correct Bill of Exceptions.

839 Dated this 1st day of March, 1915.

B. F. CURLER,

Attorney for Plaintiff.

WILLIAM M. ABBOTT,

WILLIAM M. CANNON,

METSON, DREW & MACKENZIE,

GEORGE A. BARTLETT,

Attorneys for Defendant.

(Aforesaid Title of Court and Cause.)

**Order Settling Bill of Exceptions.**

That said Bill of Exceptions was duly prepared and submitted within the time allowed by the order of the Court, and is now signed, sealed and settled as and for the Bill of Exceptions in the above-entitled cause, and the same is hereby ordered to be a part of the record in said action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 4th day of March, 1915.

E. S. FARRINGTON,

Judge.

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854 87 [485]

*In the United States Circuit Court of Appeals, Ninth  
Circuit.*

No. 1571.

PACIFIC POWER COMPANY, a Corporation.

Plaintiff in Error,

vs.

P. R. SHEAFF,

Defendant in Error.

**Order Extending Time to File Record on Writ of  
Error and Docket Cause.**

Good cause appearing therefor, it is ordered that the plaintiff in error in the above-entitled cause may have to and including April 30th, 1915, within which to file its record on writ of error and docket the cause in the United States Court of Appeals for the Ninth Circuit.

Dated April 2, 1915.

E. S. FARRINGTON,

United States District Judge for the District of  
Nevada.

[Endorsed]: U. S. Circuit Court of Appeals, Ninth Circuit. Pacific Power Company, a Corporation, Plaintiff in Error, vs. P. E. Sheaff, Defendant in Error. Order Extending Time to File Record on Writ of Error and Docket Cause. Filed April 2, 1915. T. J. Edwards, Clerk. By H. D. Edwards, Deputy. Wm. M. Abbott, Wm. M. Cannon, Geo. A. Bartlett, Attorneys for Defendant in Error.  
[485½]



*In the District Court of the United States for the  
District of Nevada.*

No. 1571.

P. R. SHEAFF,

Plaintiff,

vs.

PACIFIC POWER COMPANY, a Corporation,  
Defendant.

**[Certificate of Clerk U. S. District Court to Transcript of Record, etc.]**

I, T. J. Edwards, Clerk of the District Court of the United States for the District of Nevada, do hereby certify that the foregoing Four Hundred and Eighty-five (485) typewritten pages, numbered from 1 to 485, inclusive, to be a full, true and correct copy of the record and of all proceedings in said cause and court, and that the same, together with the original Citation and Writ of Error, hereto annexed, constitute the return to the Writ of Error.

I do hereby certify that the cost of the foregoing record is \$463.60, and that the same has been paid by the defendant herein.

I further certify that pursuant to Stipulation, found on page 483 of this record, I have this day forwarded to the Clerk of the U. S. Circuit Court of Appeals, Plaintiff's Original Exhibits, numbered 1 to 8, inclusive, and Defendant's Exhibits, marked "A" to "S," inclusive, introduced and filed in said cause.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said court, at my

office in Carson City, Nevada, this 29th day of April, 1915.

[Seal]

T. J. EDWARDS.

Clerk.

[Ten Cent Internal Revenue Stamp. Canceled  
4/29/15. H. D. E.] [486]

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No. 1571.

P. R. SHEAFF,

Plaintiff,

vs.

PACIFIC POWER COMPANY, a Corporation,  
Defendant.

**Answer to Writ of Error.**

The answer of the Judge of the District Court of the United States for the District of Nevada.

The record and all proceedings of the plaint whereof mentioned is within made, that all things touching the same, we certify under the seal of our said court, to the United States Circuit Court of Appeals for the Ninth Circuit, within mentioned at the day and place within contained, in a certain schedule to this writ annexed as within we are commanded.

By the Court.

[Seal]

T. J. EDWARDS,

Clerk. [487]

No. 1571.

P. R. SHEAFF,

Plaintiff,

vs.

PACIFIC POWER COMPANY, a Corporation,  
Defendant.**Writ of Error.**

United States of America,—ss.

The President of the United States, to the Honorable, the Justices of the District Court of the United States in and for the District of Nevada, Greeting:

Because in the records and proceedings, as also in the rendition of the judgment of a plea which is in the said District Court, before you, or some of you, between Pacific Power Company, a corporation, plaintiff in error, and P. R. Sheaff, defendant in error, a manifest error hath happened to the great damage of the said Pacific Power Company, a corporation, plaintiff in error, as by its complaint appears.

We, being willing that error, if any hath been, should be duly corrected, and full and speedy justice done to the parties aforesaid in this behalf, do command you, if judgment be therein given, that then under your seal, distinctly and openly, you send the record and proceedings aforesaid, with all things concerning the same, to the United States Court of Appeals for the Ninth Circuit, together with this writ, so that you have the same at the City of San Francisco, in the State of California, [488] on the 5th



day of April next, in the said Circuit Court of Appeals, to be then and there held, that the record and proceedings aforesaid being inspected, the said Circuit Court of Appeals may cause further to be done therein, to correct that error, what of right and according to the laws and customs of the United States, should be done.

WITNESS, the Honorable E. J. FARRINGTON, United States Judge, for the District of Nevada, the 6th day of March, in the year of our Lord one thousand nine hundred and fifteen.

[Seal] T. J. EDWARDS,  
Clerk of the District Court of the United States in  
and for the District of Nevada.

Allowed by:

E. J. FARRINGTON,  
Judge. [489]

[Endorsed]: No. 1571. In the District Court of the United States for the District of Nevada. P. R. Sheaff, Plaintiff, vs. Pacific Power Company, a Corporation, Defendant. Writ of Error. Filed March 6th, 1915. T. J. Edwards, Clerk U. S. Dist. Court, Dist. Nevada. [490]

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No. 1571.

P. R. SHEAFF,

Plaintiff,

vs.

PACIFIC POWER COMPANY, a Corporation,  
Defendant.

**Citation on Writ of Error.**

United States of America,—ss.

The President of the United States to P. R. Sheaff,  
Greeting:

You are hereby cited and admonished to be and appear at the United States Circuit Court of Appeals for the Ninth Circuit, to be holden at the City of San Francisco, in the State of California, within thirty days hereof pursuant to a writ of error filed in the clerk's office of the District Court of the United States in and for the District of Nevada, wherein Pacific Power Company, a corporation, is plaintiff in error, and you are defendant in error, to show cause, if any there be, why judgment rendered against said plaintiff in error mentioned, should not be corrected, and why speedy justice should not be done to the parties in this behalf.

WITNESS, the Honorable E. S. FARRINGTON,  
United States Circuit Judge for the District of Nevada, this 6th day of March, A. D. 1915.

E. S. FARRINGTON,  
United States District Judge. [491]

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*In the District Court of the United States, for the  
District of Nevada.*

P. R. SHEAFF,

Plaintiff,

vs.

PACIFIC POWER COMPANY, a Corporation,  
Defendant.

AFFIDAVIT OF MAILING.

Jonathan Payne, being duly sworn, deposes and says: That he is a citizen of the United States over twenty-one years of age; that he deposited in the postoffice at Carson City, Nevada, on the 6th day of March, 1915, a copy of the Citation on Writ of Error to which this affidavit is attached, together with a copy of the Writ of Error in the foregoing entitled action, in a sealed envelope, with postage prepaid thereon, addressed to attorney for defendant in error, Hon. B. F. Curler, Elko, Elko County, Nevada.

JONATHAN PAYNE.

Subscribed and sworn to before me this 6th day of March, A. D. 1915.

[Seal]

T. J. EDWARDS,

Clerk U. S. District Court, District of Nevada.

By H. S. Edwards,

Deputy. [492]

[Endorsed]: No. 1571. In the District Court of the United States for the District of Nevada. P. R. Sheaff, Plaintiff, vs. Pacific Power Company, a Corporation, Defendant. Citation on Writ of Error. Filed March 6th, 1915. T. J. Edwards, Clerk U. S. Dist. Court, Dist. of Nevada.



[Endorsed]: No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Pacific Power Company, a Corporation, Plaintiff in Error, vs. P. R. Sheaff, Defendant in Error. Transcript of Record. Upon Writ of Error to the United States District Court of the District of Nevada.

Filed April 30, 1915.

F. D. MONCKTON,  
Clerk of the United States Circuit Court of Appeals  
for the Ninth Circuit.

By Meredith Sawyer,  
Deputy Clerk.

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*In the United States Circuit Court of Appeals, in  
and for the Ninth Circuit.*

PACIFIC POWER COMPANY, a Corporation,  
Plaintiff in Error,

vs.

P. R. SHEAFF,

Defendant in Error.

**Order [Granting Plaintiff in Error to May 10, 1915,  
to File Record in Appellate Court.]**

Upon motion of plaintiff in error in the above-entitled action, and good cause appearing therefor,—

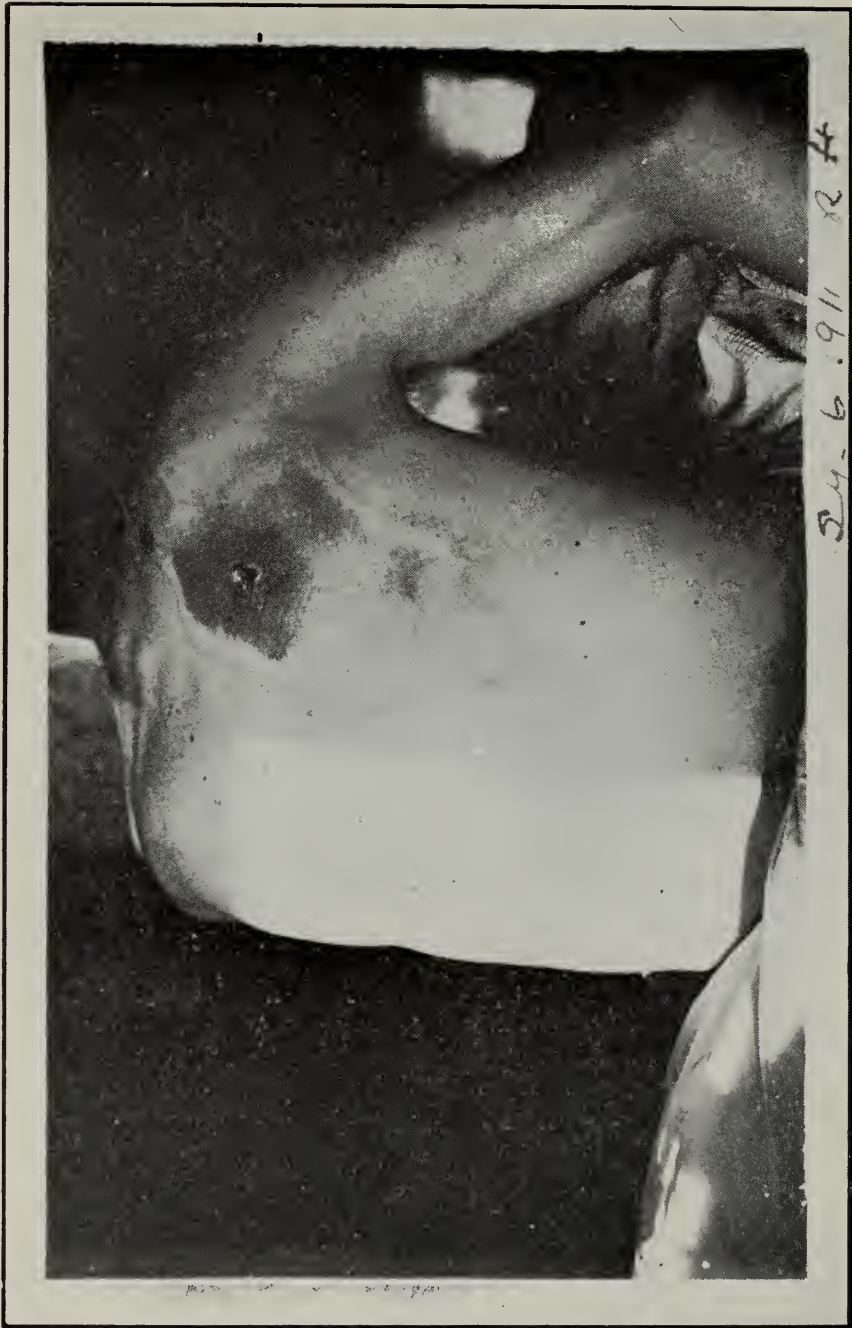
IT IS HEREBY ORDERED that the plaintiff in error may have and it is hereby granted ten (10) days' additional time from the 30th day of April, 1915, within which to file in this court the transcript of the record of the United States District Court for the State of Nevada in the said action upon the writ

of error heretofore issued therein.

Dated, April 29, 1915.

WM. W. MORROW,  
Judge.

[Endorsed]: No. 2603. United States Circuit Court of Appeals in and for the Ninth Circuit. Pacific Power Company, a Corporation, Plaintiff in Error, vs. P. R. Sheaff, Defendant in Error. Order. Filed Apr. 30, 1915. F. D. Monckton, Clerk.

**Plaintiff's Exhibit No. 4.**

[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Plffs. Exhibit No. 4. Filed Decr. 16, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.



**Plaintiff's Exhibit No. 5.**



[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Plffs. Exhibit No. 5. Filed Decr. 16, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.

*Pacific Power Company*  
**Plaintiff's Exhibit No. 6.**

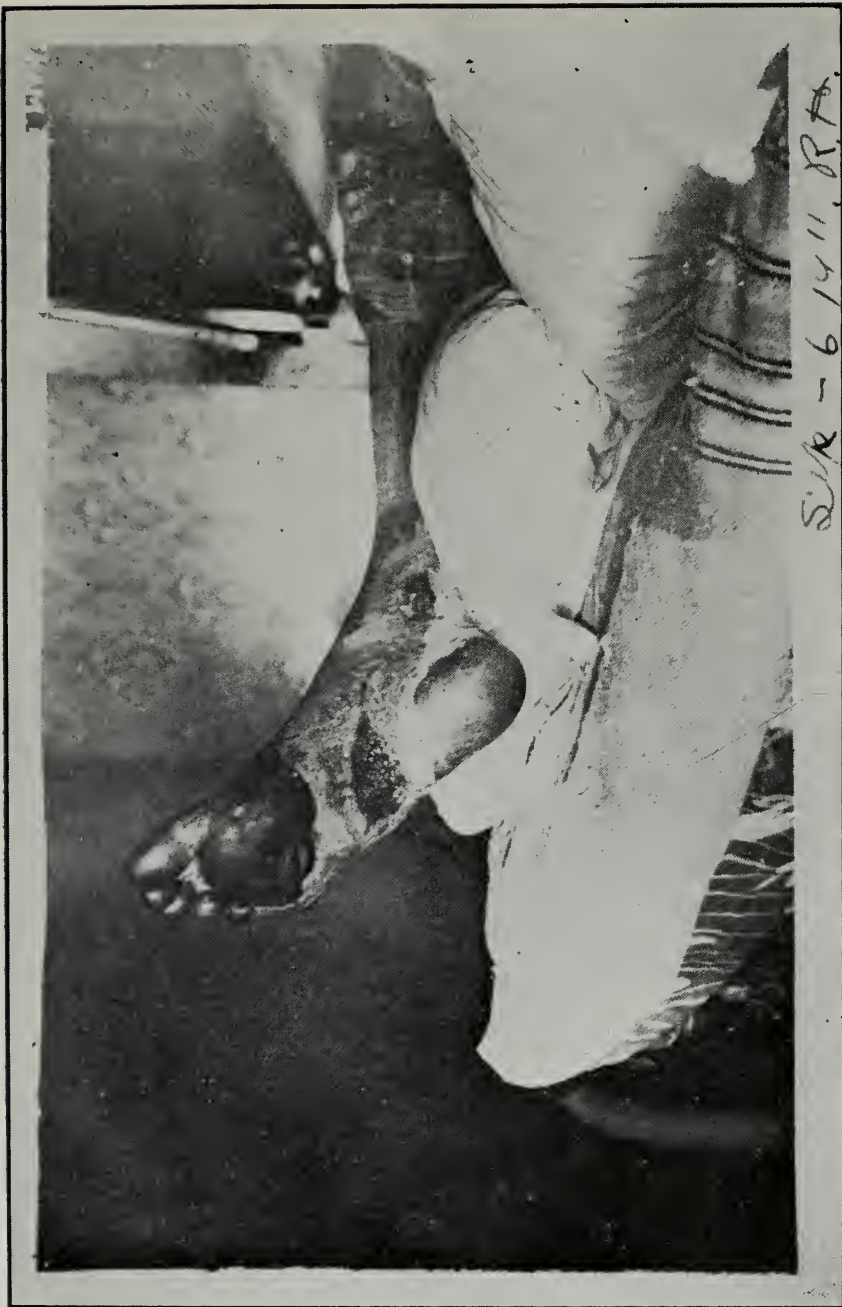


[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Plffs. Exhibit No. 6. Filed Decr. 16, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.



**Plaintiff's Exhibit No. 7.**

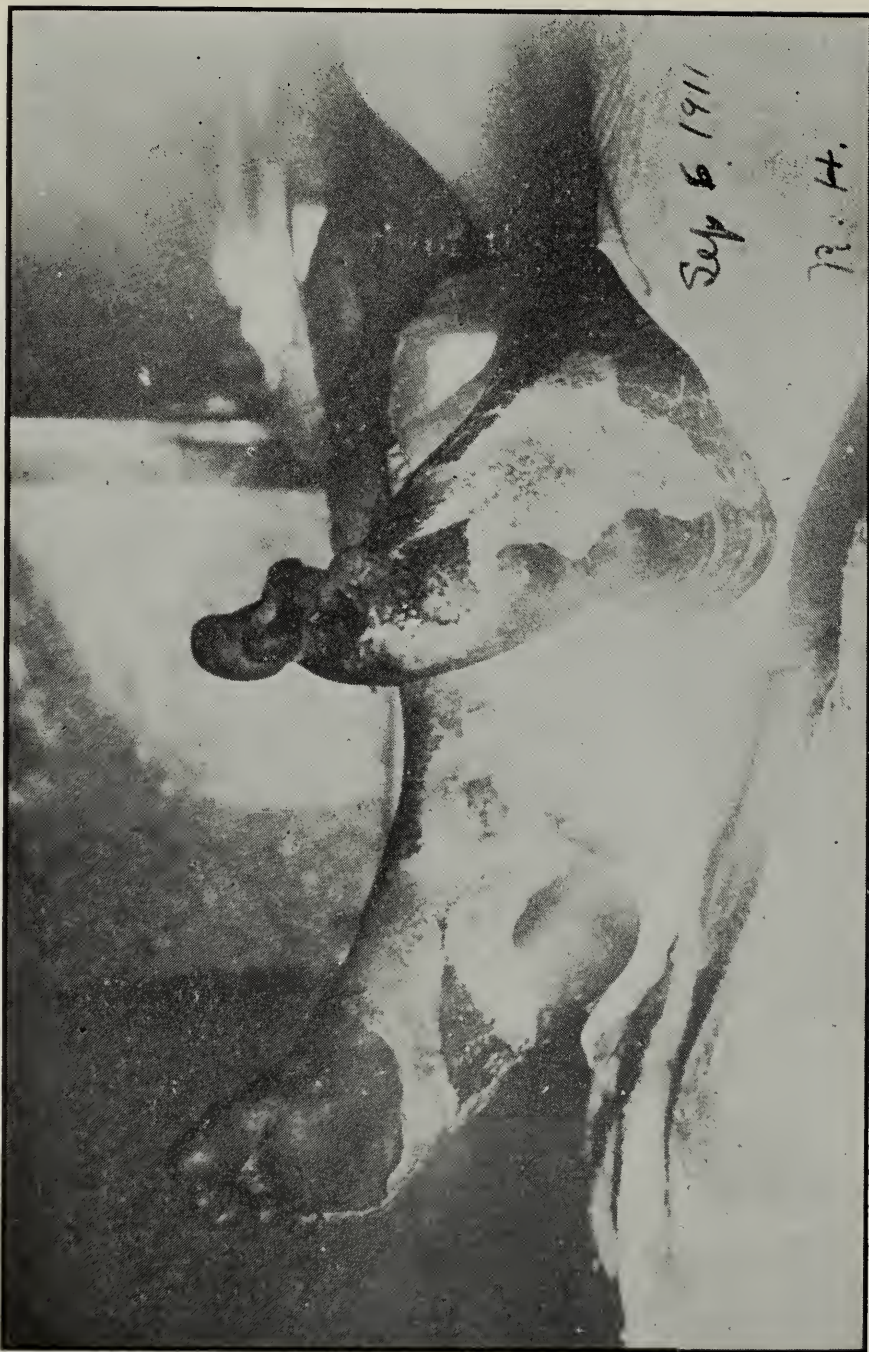


[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Plffs. Ex. No. 7. Filed Decr. 16, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.



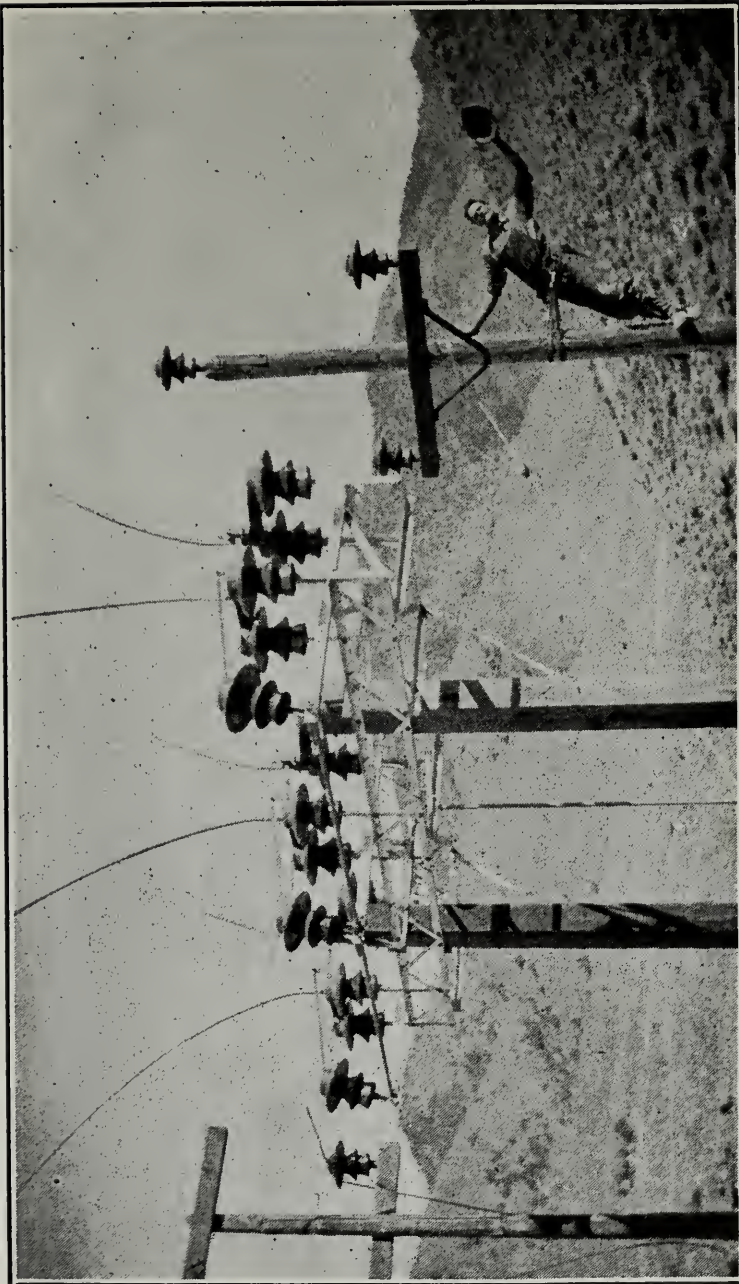
*Pacific Power Company*  
**Plaintiff's Exhibit No. 8.**



[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Plffs. Ex. No. 8. Filed Decr. 16, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.

**Defendant's Exhibit "H."**



[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Defts. Exhibit "H." Filed Decr. 12, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.



[Defendant's Exhibit "J"—Letter, Oct. 9, 1911,  
Sheaff to Chatfield.]

[Letterhead of Grand Hotel.]

Fallon, Nevada, Oct. 9, 1911.

Mr. W. N. Chatfield,

Bodie, Cal.

Dear Mr. Chatfield:

Just a line to let you know I'm getting on favorably. Everything is about the same here, excepting the weather, and it's fine and warm.

Hope you are enjoying the cool weather in Bodie, as I've no doubt it's cool there.

Mr. Justice says to tell you he is still alive, and feeling fine.

Please give my best regards to George Johnson and Mr. Greenleaf, also Sam Westhorpe.

With best wishes,

I remain, yours sincerely,

P. R. SHEAFF.

[Endorsed]: No. 1671. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Plffs. Letter to Chatfield. Oct. 9/11. Defts. Exhibit "J." Filed Decr. 12, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.



[Defendant's Exhibit "N"—Letter, Jan. 16, 1912,  
Sheaff to Pac. Power Co.]

[Letterhead of Grand Hotel.]

Fallon, Nevada, Jan. 16, 1912.

Pacific Power Co.,

Bodie, Cal.

Dear Mr. Chatfield:

Yours of Jan. 14, with check for Mr. Osborn enclosed, came to-day.

Thanks for sending it over. Sorry to hear of the shortage of water, as it will not only be a detriment to you, but to several mining camps.

I am about the same, have just been up town, and it's fine and warm.

Sincerely yours,

P. R. SHEAFF.

[Endorsed]: No. 1571. U. S. Dist. Court, Dist. Nevada. P. R. Sheaff vs. Pacific Power Co. Letter—Plff. to Deft. Jany. 16/12. Defts. Exhibit "N." Filed Decr. 12, 1913. T. J. Edwards, Clerk.

No. 2603. United States Circuit Court of Appeals for the Ninth Circuit. Filed Apr. 30, 1915. F. D. Monckton, Clerk.

